


Customer Service Programme— Europe

Service Update



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...An Advance Look

1988 Large- and Small-Systems User Research

In the first half of every year, INPUT's Customer Service Program (CSP) primary research efforts revolve around extensive interviewing of assorted large- and small-system users regarding their service and support needs and satisfaction with their service vendors. INPUT places great importance on this effort,

since it is the user force that drives the customer service market. In addition to providing customer satisfaction indices for our clients, the user research also helps uncover industry-wide trends regarding unmet user needs and the resulting opportunities for future growth.

Each year, INPUT selects (as suggested by CSP clients) a list of large- and small-systems products to analyze. User lists of products are collected and a questionnaire is designed (again with the assistance of CSP clients). Next comes the time-consuming task of interviewing

Continued on page 2

Systems from page 1

Information Systems officials at Fortune-1500-size companies over the telephone (each interview takes up to 30 minutes). The data collected are stored and manipulated in a microcomputer data base management system, and then statistically analyzed to prepare the actual reports delivered to INPUT clients.

This article provides current Customer Service Program clients with an early look at 1988 research findings and nonclients with a taste of the type of primary research that INPUT provides.

In 1988, INPUT surveyed 381 large-system and 399 small-system users, up from 350 large-system and 360 small-system users surveyed in 1987. Large-system products analyzed include the Amdahl 58XX, the

CDC Cyber 180, the IBM 309X and 308X, the NAS AS/XL, the NCR 9XXX, the Unisys AX and 1100/XX, and the Honeywell DPS mainframe systems. Small systems covered include the AT&T 3BX, Concurrent 32XX, DG MV/10 and 20,000, DEC VAX and PDP lines, HP 3000, IBM System 38 and 9370 lines, Prime 9X5X, and Wang VS small systems. The respective Large- and Small-System reports will analyze each of these products in much greater depth, but this article provides an overview of users' large- and small-system requirements and satisfaction with their vendors' performance in the key service areas of system availability, parts availability, and software documentation, as well as the overall reaction to hardware maintenance and software support.

Year after year, INPUT's user research has confirmed that

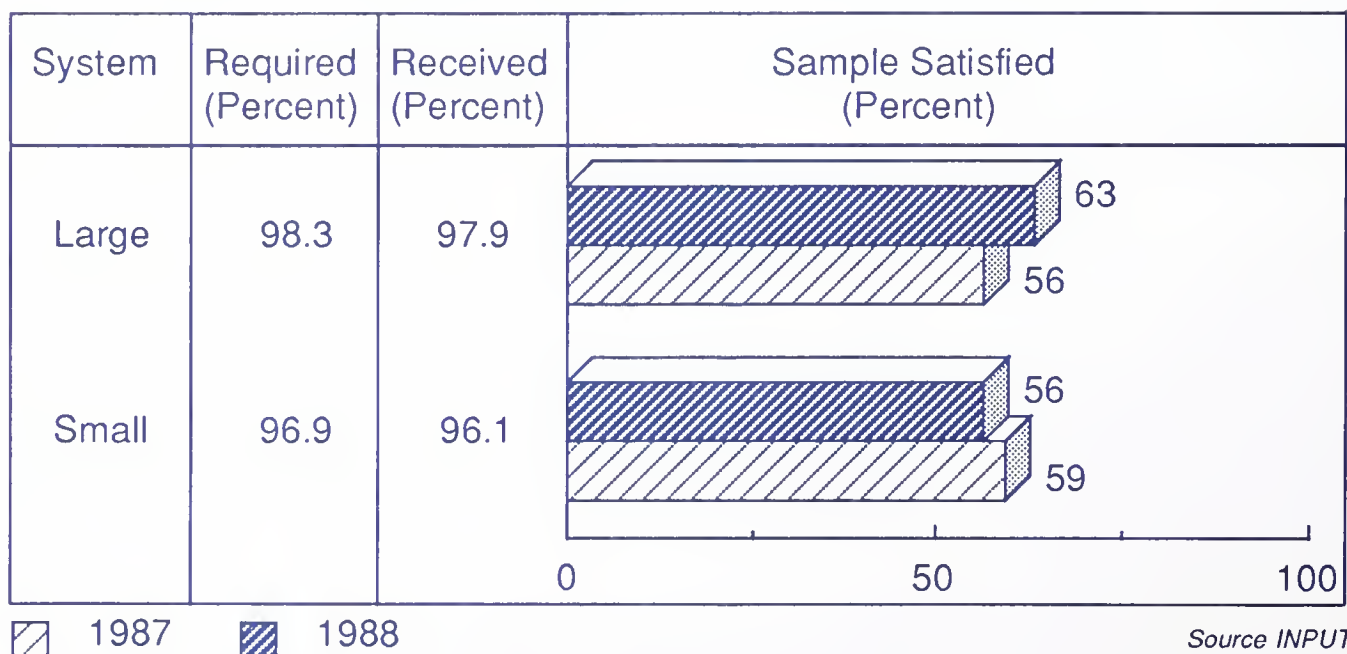
large- and small-system users place greatest importance on receiving optimal system availability from their computer systems. Exhibit A summarizes the 1988 findings.

Large-system users are reporting system availability requirements of 98.3% (identical to last year's sample) versus 97.9% received (up slightly from last year's 97.6%). This may suggest that large-system user expectations may be leveling off, which is good news for large-system service vendors. This good news is reinforced by an increase in the percentage of large-system users (63% in 1988) who were satisfied with their system availability—up from 56% in 1987.

Small-system users reported much lower system availability requirements (97.9% in 1987, falling to 96.9% in 1988) and re-

Exhibit A

1988 SYSTEM AVAILABILITY PERFORMANCE



ceived 96.9% in 1987, falling to 96.1% in 1988. Part of this drop in expectations and actual performance can be attributed to changes in the products analyzed (i.e., Tandem NonStops were dropped from the sample in 1988, and the 1988 sample analyzed the PDP line instead of the larger VAX 11/780 line). The latter information will help determine whether this drop in expectations and performance is also present in individual product samples, or whether the reductions can be isolated to changes in the product sample. In any case, only 56% of the small-system users surveyed were satisfied with the system availability that they received (down from 59% in 1987).

Each year, INPUT asks users to rate first their requirement, and then their satisfaction with each of a number of services in all aspects of customer support: hardware maintenance, software support, professional services (e.g., planning and consulting services) and educational services. More than a simple analysis of customer satisfaction, these questions uncover and measure user requirements for a number of innovative support services, providing new opportunities for increased user satisfaction and service revenues.

In this article, the key areas of spare parts availability, software documentation, overall satisfaction with hardware maintenance,

and overall satisfaction with software support are examined (these four segments rate highest in importance yet lowest in satisfaction year after year).

In the large-system environment, it is not surprising to see the importance of spares availability, since few large-system users accept downtime caused by the lack of needed spare parts, regardless of rising spare parts costs. Fortunately, increased service automation (such as remote diagnostics) and logistics advances have acted to minimize downtime caused by sparing problems.

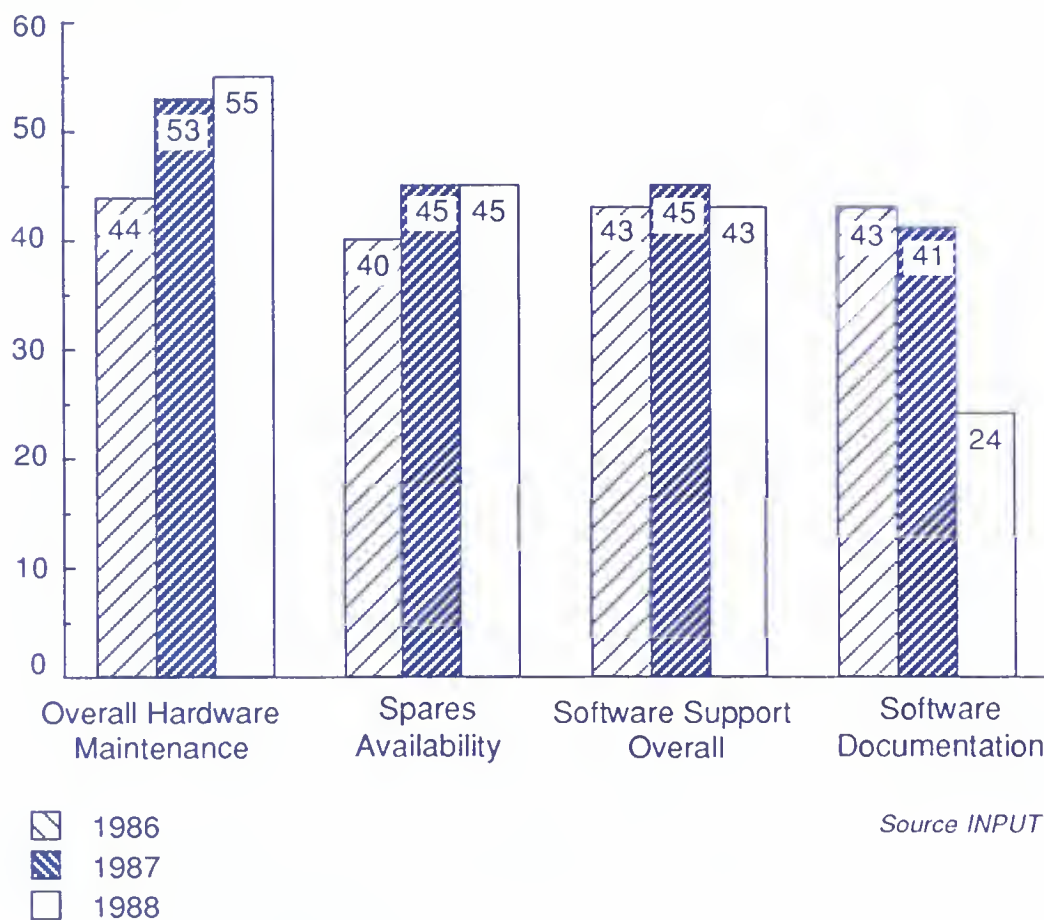
Instead, it appears that the biggest problem area in the large-system environment is in software support (as shown in Exhibit B), both overall and, most significantly, software documentation. Often, service organizations prefer to consider these areas as out of their control, since outside software developers often provide the software, documentation, and support. Lastly, user satisfaction (or dissatisfaction) with the software product performance and support has some impact on user satisfaction with hardware.

Continued on page 4

Exhibit B

LARGE-SYSTEM USER SATISFACTION

Percent Satisfied



Source INPUT

Systemsfrom page 3

In the small-system environment (shown in Exhibit C), there is greater concern (and dissatisfaction) with spares availability than software support, which is probably due to the lesser reliance and development of automated support technology (although this is changing rapidly).

What is most discouraging is the steadily increasing dissatisfaction with software documenta-

tion (60% dissatisfied in 1986, growing to 70% in 1988). This highlights the need for increased attention placed on documentation design, development, production, and distribution. Users continually complain about the clarity and "usability" of the documentation, as well as the update process. Needed improvements include increased interaction with and involvement by user groups in the documentation process, and increased use of alpha- and beta-testing of the documentation as well as the product. ■

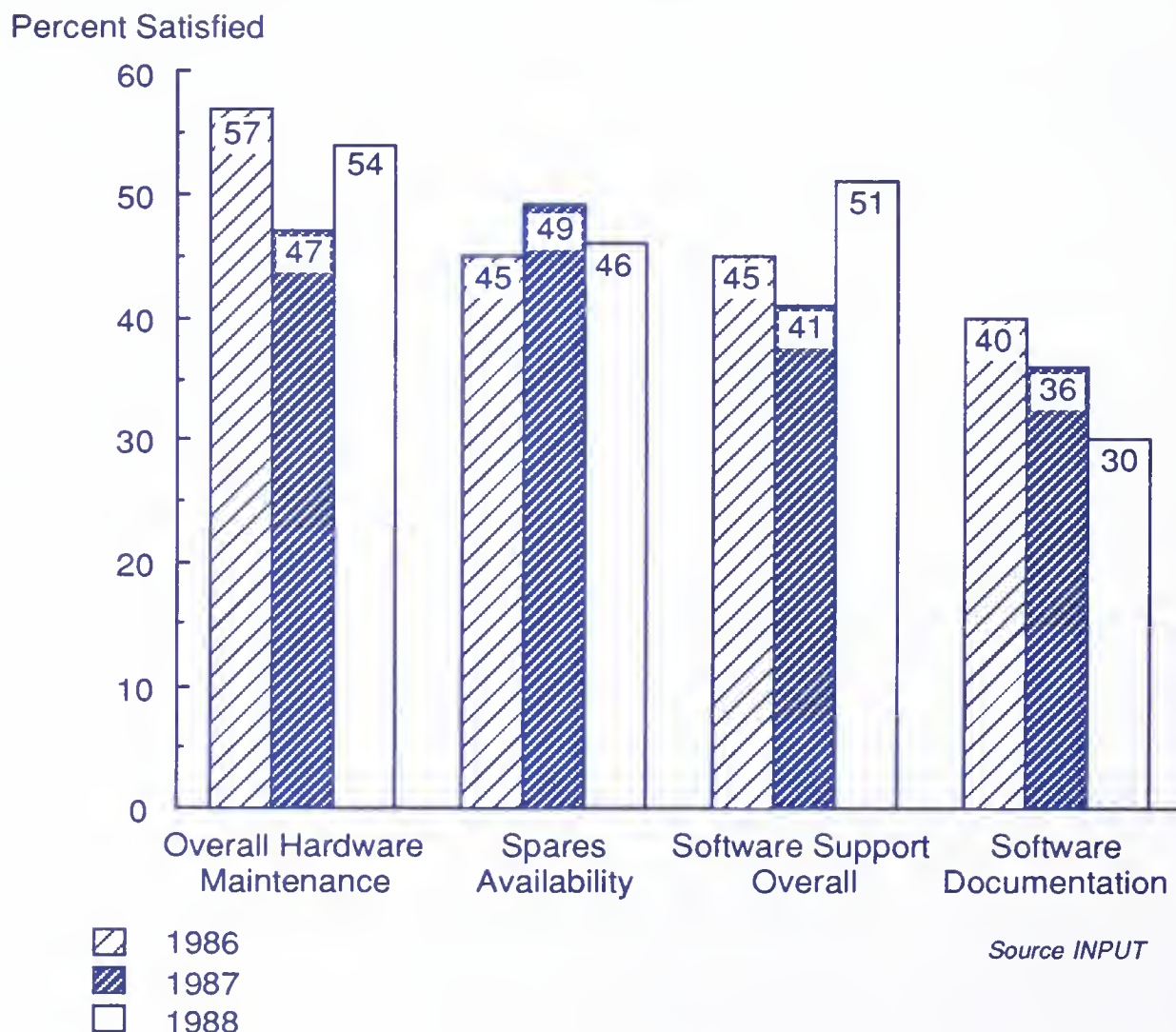
More in-depth information is available in the following recent INPUT reports:

- *Analysis of Large Systems Service*
- *Analysis of Small Systems Service*
- *Analysis of Third-Party Maintenance*

For more information about these reports check **Systems** on the action card; for more information about the full service check **CSP** on the action card; call INPUT at (415) 961-3300 ext. 500 or see order form on page 12.

Exhibit C

SMALL-SYSTEM USER SATISFACTION



SI Leads Federal Professional Services Market Growth

As shown in Exhibit D, the federal market for information technology professional services is expected to grow from \$3.6 billion in 1987 to \$6.2 billion in 1992, at an average annual growth rate of 13 percent. This is the conclusion of a 1988 report from INPUT entitled *Federal Professional Services Market*.

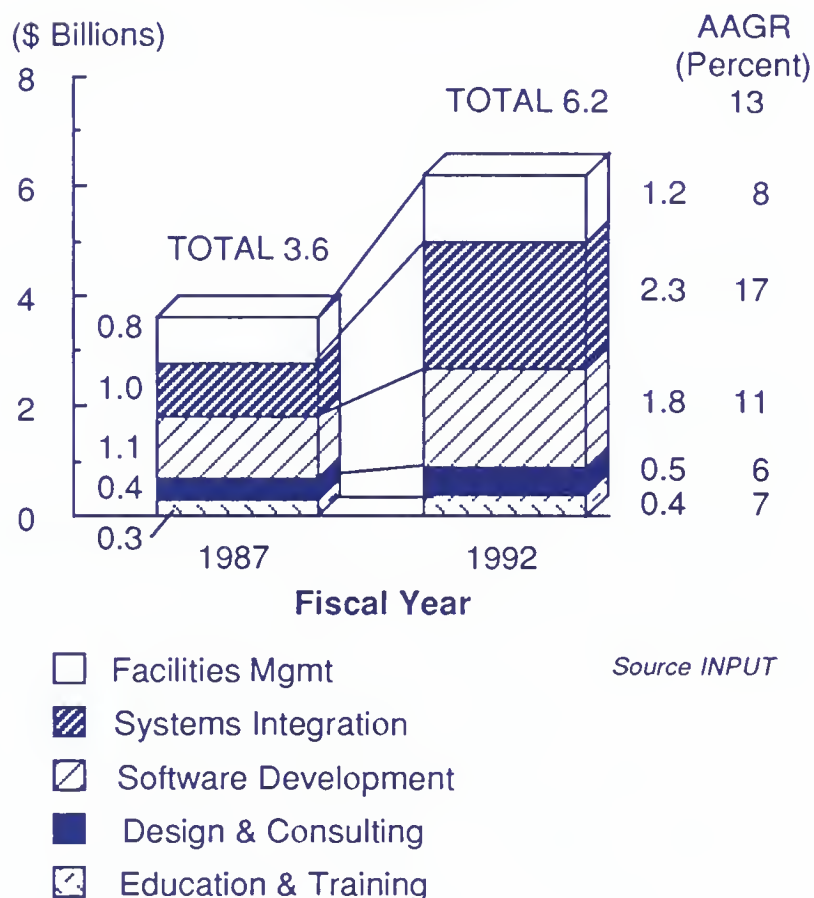
Of greater significance, however, is that the systems integration segment of this market, now the number-two niche at \$1 billion a year, will more than double over the five-year period to \$2.3 billion, becoming the biggest segment within the market as well as the fastest growing, with an average annual growth rate of 17 percent. The growth of systems integration derives from the government's need for solutions, as opposed to components.

Further, the shortage of in-house technical experts limits many agencies in designing solutions internally. Consequently, agency executives increasingly are looking toward the marketplace for creativity and innovation in solving government problems.

Systems integration contracts give agency executives the opportunity to take advantage of the latest technology and best minds available to solve these problems. INPUT's study shows that agencies are tending more toward functional specifications to meet their needs, thus driving the selection process farther up the organizational hierarchy. Program managers, as opposed to technology managers, are

Exhibit D

FEDERAL PROFESSIONAL SERVICES MARKET



taking on a greater role in source selection, since they better understand agency program needs.

Although programming and analysis have traditionally taken the biggest piece of professional services, INPUT now finds this changing. The growing use of software packages, as well as agency policies encouraging their use, will tend to dampen the increase in this category.

Although software development has slowed to an 11 percent annual growth, it is still projected to increase from its present \$1.1 billion to \$1.8 billion by 1992, since many agencies are still looking to the marketplace

for custom software to meet their (perceived) unique needs.

The need for custom software is particularly true for scientific or military applications, for which no commercial counterpart may exist. Just as in the systems integration category, the value added represents a special opportunity for both the government and its contractors.

Facilities management will grow at 8 percent annually from \$0.8 billion to \$1.2 billion, with education and training, now a \$0.3 billion segment, rising to \$0.4 billion in 1992, with an average annual growth of 7 percent.

Continued on page 6

SI Leads from page 5

The slowdown in growth in these categories is due in part to increased demand for more complex services and in part to these activities being increasingly folded into systems integration procurements.

In its drive to improve productivity, to do more with less, the federal government is growing increasingly reliant on information technology. At the same time, functional and pricing trends, especially in terms of microcomputers and associated software, have opened up new opportunities in government for using the technology.

However, the Reagan administration has encouraged contracting out many formerly in-house activities, including professional services. The

growing emphasis on OMB Circular A-76, as well as the new Executive Order 12615 (Performance of Commercial Activities), emphasizes the bias toward contracting out. At an increasing rate, agencies must use

“...microcomputers and associated software have opened up new opportunities in government for using the technology.”

professional services firms to take advantage of the technology and reach their productivity goals.

Federal personnel policies are also driving an increase in the use of professional services firms. Practically all agency executives interviewed by INPUT cited difficulty in hiring staff with strong technical credentials.

In the Washington area, at least, good candidates can frequently

obtain higher salaries and better benefits in the private sector than in government. Thus, many employees with fewer than 15 years of service are leaving government, causing agency executives with more

than 20 years of service themselves to contract out most of their technical support activities.

In the preparation of its report on the federal professional services market, INPUT interviewed agency and vendor executives on the subject of teaming arrangements, contracting procedures, and selection criteria. ■

For more information about the report check **Federal** on the action card; for more information about the full service check **FISSP** on the action card; call INPUT at (703) 847-6870 ext. 500 or see order form—page 12.

Systems Integration Executives Convene in Chicago

INPUT's Systems Integration Research team and the clients of INPUT's Systems Integration Planning Service met in Chicago on July 19 and 20, 1988, for the second 1988 working session. This session focused on the research INPUT has conducted to date in 1988 and the ongoing challenge of tracking an emerging market. The meetings were well-attended and highly rated by clients.

On the first day, the attendees received and discussed a proposed framework for segmenting and analyzing the CSI market and for positioning the

vendors within the market, discussed the process of forming strategic alliances and the ingredients to success, and had a first look at the secondary players in CSI (smaller vendors that are actively seeking participation in this market but do not have the resources to be a full systems integrator).

On the second day, the views of the CSI “buyer” were the focus of the discussion. INPUT began with the results of its recently completed research report, *Systems Integration—Buyer Issues*. This was followed by three user-presented case studies that

helped highlight the diversity of this new market and the challenge facing vendors participating in it.

The third meeting was held in conjunction with INPUT's Annual Client Conference in September. ■

For more information about SI reports check **Systems Integration** on the action card; for more information about the full service check **SIP** on the action card; call INPUT at (415) 961-3300 ext. 500.

Alternate Distribution Channels

It has become increasingly more difficult and expensive to reach users with products that have modest price tags on each specific applications solution. For many years value-added resellers (VARs) have been an important and influential vehicle to allow smaller hardware-oriented vendors to establish their products and name in the market. In addition, larger manufacturers have used VARs to complement their marketing and sales efforts to reach end users with industry-specific applications solutions.

INPUT performed research to determine how this channel

element could be further utilized by information services vendors other than hardware vendors. In addition, the research included determining the current state of VAR business, covering issues, trends, and developments impacting the VAR community.

VARs are shifting their focus from a scattered "buckshot" approach in their sales efforts. As they learn to coexist with the manufacturers they work with, their efforts have become more directed. Additionally, software vendors and processing/network vendors have been starting to use VARs as a way to comple-

ment their sales distribution strategies.

INPUT's new report entitled *Alternate Distribution Channels* surveys the VAR market and obtains some interesting perspectives on what is happening in this channel. This report will be useful to vendors that are looking at ways to extend their current marketing effort. ■

For more information about this report check **Distribution Channels** on the action card; for more information about the full service check **MAP** on the action card; call INPUT at (415) 961-3300 ext. 500 or see order form on page 12.

1988 Information Systems Program Planning Report

INPUT's annual assessment of the forces, issues, and underlying trends facing the Information Systems function will be available just in time to support the development of 1989 IS plans and budgets. The most in-depth analysis in recent years, the 1988 Planning Report is based on over 400 interviews with senior information management professionals on application development, data management, key issues, and budget trends.

The findings indicate that as we near the end of the 1980s the information systems function is facing more pressure and changing faster than it has during the past ten years. By the early 1990s the IS function of a progressive organization will look

significantly different than it does today.

The issues facing IS all result from pressure to improve the bottom line and strategic contribution of IS to the organization. These issues in turn will shift the structure of the central IS function over the next few years.

Major Issues—1988

- Rising Management Expectations
- User Demands for Increasingly Complex Solutions
- Managing the Technology Investment
- Integration—Data and Applications

- Development Productivity
- "Mission Critical" Systems

The 1988 report indicates that IS continues to operate in the constrained environment of modest budget growth and increasing development demands. Budget growth averaged only 4% in 1988 and is projected at 5% for 1989.

INPUT has a growing belief that a greater portion of the "IS budget" is moving outside the direct control of IS each year. As Exhibit E shows, only 55% of the IS budgets include operating-division IS expenses and 62% include end-user comput-

Continued on page 8

1988 Information Systems from page 7

ing expenses. As more and more computing is distributed across the organization, the related expense is also being dispersed.

The application development challenge remains as intense as ever. The 1988 findings include:

- 83% report the backlog is unchanged or larger.
- 24% now use CASE technology to boost productivity.
- 52% report the end user is developing production versus personal productivity systems.
- 20% of all new development is being done by end users.

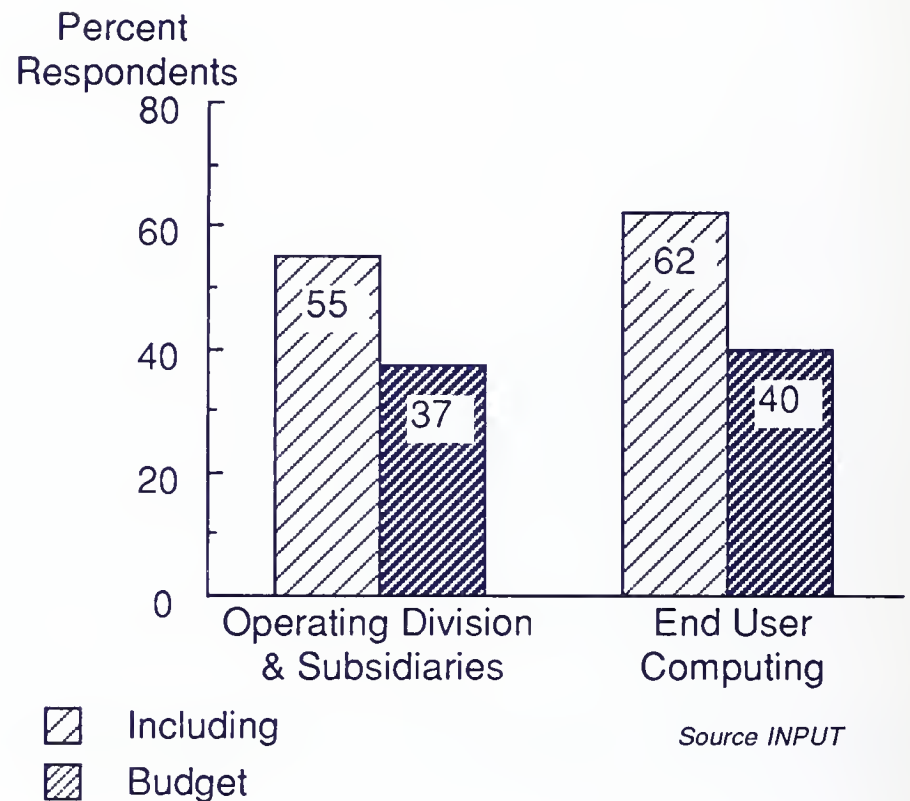
Within the data management process and function, INPUT finds significant concern and change underway. The move to operational versus prototype use of relational DBMS technology is in full swing. With it comes the challenge for data administration to learn a new technology while integrating it with the existing data bases and control processes.

Key findings in the data management area are:

- 62% of data management managers believe their performance is no better than average.
- 42% now use more than one mainframe DBMS.
- Over 60% now use relational DBMS.

Exhibit E

INFORMATION SYSTEMS BUDGET—WHAT IT INCLUDES



- Minicomputer DBMSs are quickly replacing file-oriented environments.

Over the next five years INPUT expects the role of the central information systems function to undergo major change. As the use of more powerful (intelligent workstation, DBMS, and other) technology spreads to the end user, and the challenge to create complex solutions gains priority, the principal responsibilities of Information Systems will shift from doing to planning and engineering.

By the early 1990s, INPUT expects the progressive IS organization will be smaller, expert based, with a consultant style. It will oversee the network and

core data processing only. Much of the application development and processing will be managed by the end-user organization and the dispersed IS professional.

The years 1989 and beyond will bring immense challenge and change to the IS function. INPUT's 1988 ISP Planning Report can help IS management prepare for and successfully meet that challenge. ■

For more information about this report check **Information Systems** on the action card; for more information about the full service check **ISP** on the action card; call INPUT at (415) 961-3300 ext. 500 or see order form on page 12.

IBM's SAA

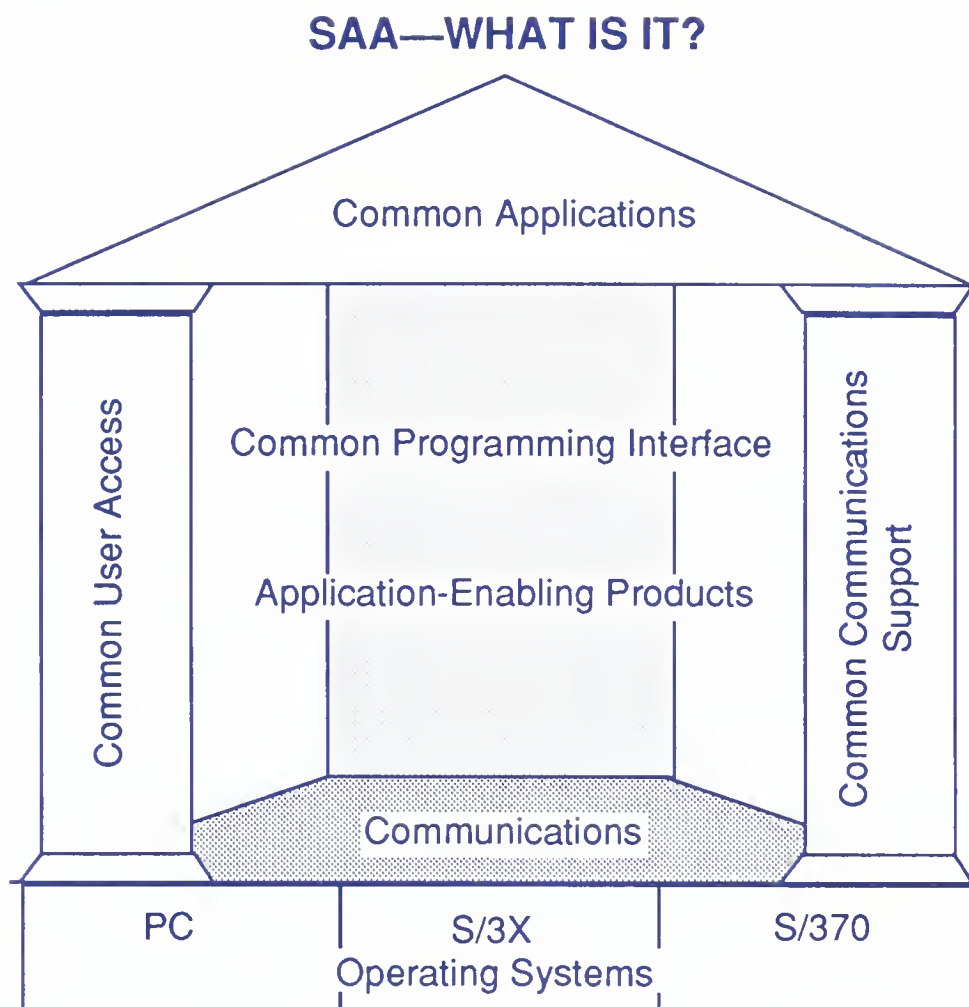
IBM officially announced Systems Application Architecture (SAA) on March 17, 1987. INPUT believes this announcement is a key strategic statement providing the vendor and user community with information on what INPUT believes to be a major shift in what IBM will be marketing and selling in the future.

In its report *IBM Systems Application Architecture* (June 1988), INPUT describes and analyzes the reasons leading to SAA. The report also covers what SAA is, what it means, when it will arrive, and provides recommendations on how vendors and users can take advantage of the SAA opportunity.

Exhibit F shows the major elements of SAA, including a common programming interface, common communications support, common user access, and common applications. INPUT's report covers each of these elements in depth.

Software vendors and users need to be aware of the issues and how they should best react

Exhibit F



Source INPUT

“In the future, vendors will have the ability to develop applications systems that will transcend IBM's hardware families.”

to this important announcement. It is clear that IBM recognizes the importance of software, especially applications software, as a vehicle to expand the company with growth rates similar to

those it experienced in the early 1980s. IBM's recent AS/400 announcement (“Silverlake”) includes two major facets that are the foundation of SAA. First, there are over 100 application packages being announced. Second is an announcement that initiated the wave of SAA in the IBM midrange.

In the future, vendors will have the ability to develop applications systems that will transcend IBM's hardware families. This is the power of SAA. The report is valuable reading for those in the vendor community, as well as the end-user community, to obtain vital insight into SAA. ■

For more information about this report check **SAA** on the action card; for more information about the full service check **MAP** on the action card; call INPUT at (415) 961-3300 ext. 500 or see order form on page 12.

The Tides of Change: Customer Service

At INPUT's Annual Client Conference on September 28-30, 1988 in Scottsdale, Arizona, Buddy Stigler, Director of INPUT's Customer Service Program, reviewed significant changes that have or will occur and their impact on both the service market and the overall cost of ownership of computer products.

Historically, customer service has been a high-profit product for most computer vendors and has represented a market opportunity for third-party maintenance companies. During the past few years, large customers have stimulated this third-party competition by releasing RFPs for service and by trying alternatives to lower their total cost of product ownership. They have succeeded to a large extent in creating a buyers' market for

service. Computer vendors are concerned not only with the potential loss of profit but also with loss of account control.

IBM, the industry leader, has reacted strongly by placing a sharp focus on lower prices, higher quality, additional coverage and services, and partnership with its customers. The overall goals appear to be an increase in market share and account control. These actions have lowered the overall cost of product ownership and therefore have impacted other hardware vendors as well as third-party maintainers. For example, the dramatically lower prices make the IBM product much more competitive from a price standpoint. This will force IBM's hardware competitors to lower prices or accept lower product sales. The third-party

maintainer will have to decrease price in order to remain competitive.

The overall outlook for IBM, other hardware vendors and third-party maintainers is for reduced profit margins for service. As a result, the search is on for additional offerings that will provide profit opportunity. Customers will continue to stimulate competition in an attempt to keep the trend toward a buyer's market. ■

For more information about the full service check **CSP** on the action card; call INPUT at (415) 961-3300 ext. 500 or see order form on page 12.

New Releases

INPUT is pleased to announce the following major studies...

EDI Implementation Case Studies (June 1988) An in-depth look at four leading-edge users of electronic data interchange: Hewlett-Packard, American President Companies, Mervyn's, and Levi Strauss & Co. These four companies, representing different industries, show strikingly similar approaches and experience relative to EDI. The report focuses on the management issues involved in EDI implementation and how EDI is changing the way each com-

pany's industry operates. The lessons learned have broad applicability, and can serve as a valuable management guide for launching EDI in nearly any type of firm. Further, the study can help EDI network/processing, software, and professional service firms understand the inside dynamics of companies considering their EDI options.
(Check **EDI** on action card.)

Information Services Industry Report (October 1988) This market report explains in detail this rapidly growing arena. Four delivery modes of the

information services business are outlined. Opportunities in each sector of software products, processing/network services, turnkey systems, systems integration, and professional services have been illustrated.

(Check **Information Services** on action card.)

Alternate Distribution Channels (June 1988) will investigate the VAR distribution channel and its ability to offer a complementary vehicle to other marketing/sales channels being employed. The traditional role of all VARs has been to offer industry-specific

New Release . . . from page 10

expertise through a turnkey solution. INPUT will explore and evaluate this industry expertise relative to other delivery modes to determine the degree of effectiveness present in current approaches.

(Check Distribution Channels on action card.)

SAA - Impact on the Industry (June 1988) With Systems Application Architecture (SAA), IBM has revealed a major product and market direction that far surpasses SNA, announced in 1974. SAA is a major commitment by IBM to have software universally available on a broad mix of IBM hardware systems providing common interfaces, functionality, and system flexibility. The ability to grow from one hardware platform to another has added to DEC's success; applications software (and its implicit investment) migrates with the application system.

(Check SAA on action card.)

In this report, INPUT examines the progress of the SAA development effort and provides insight into the potential challenges, success, and expectations.

1988 Information Systems Program Annual Planning Report (October 1988) An in-depth analysis based upon interviews with over 400 senior information management professionals on application development, data management, key issues, and budget trends.

(Check Information Systems on action card.) ■

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, office products, and services.

The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's professional staff members analyze and interpret the research data, then develop recommendations and innovative ideas to meet clients' needs. Clients receive reports, presentations, access to data on which analyses are based, and continuous consulting.

Many of INPUT's professional staff have nearly 20 years of experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed in 1974, INPUT has become a leading international planning services firm. Clients include over 100 of the world's largest and most technically advanced companies. ■

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- ☐ *Federal Government Professional Service Market* (\$1395)
- ☐ *Alternate Distribution Channels* (\$695)

- ☐ *1988 Information Systems Planning Report* (\$995)
- ☐ *A Guide to EDI Implementation* (\$695)
- ☐ *1988 Information Services Industry Report* (\$695)
- ☐ *SAA—Impact on the Information Services Industry* (\$695)
- ☐ *INPUT/output Newsletter* (\$195/12 issues per year)

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October 1989

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Granada: The Creation of Europe's Largest TPM

Granada Computer Services International Ltd is today the largest independent maintenance company in Western Europe, a company that is truly Pan-European with operations that extend to cover most of the countries in Europe. INPUT estimates that Granada's share of the Western European third-party maintenance market is 15%. The company is almost three

times larger than its closest competitor.

The international headquarters of Granada are located at Wokingham in the United Kingdom, about 40 miles west of London in an area well-known for high

technology adjacent to the M4 Motorway. Many major computer companies are located in this area, which is often said to be the UK equivalent of "Silicon Valley". The UK is Europe's most developed third-party maintenance market, a market that represents Granada's strongest presence having a market share estimated by INPUT at over 30% of this country's market.

**“ GRANADA - 15% European
TPM Market Share ”**

Continued on next page

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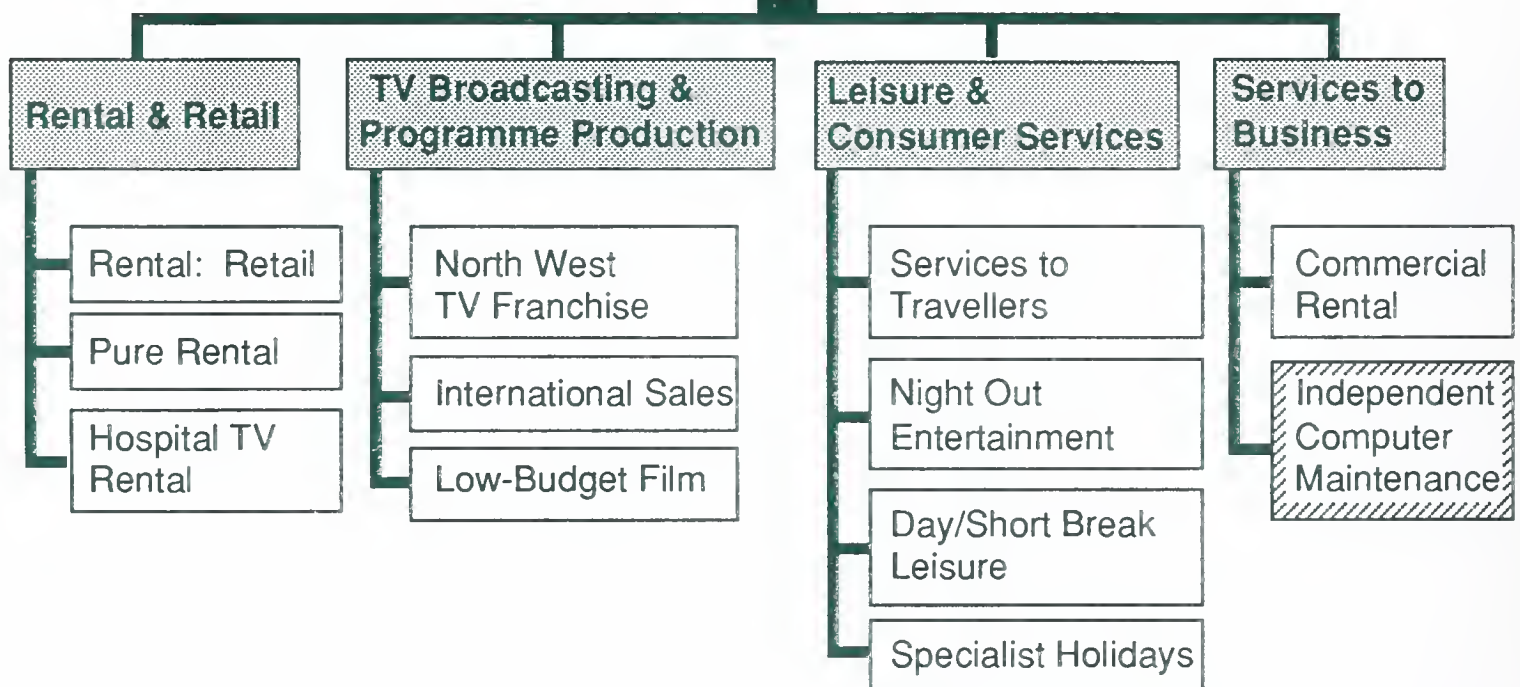
Until recently Granada was unknown in the sphere of computer maintenance and has become a dominant force only in the last two years. The

from television broadcasting and programme production to motorway travellers' services to independent computer maintenance. The business structure of the Granada Group PLC is illustrated in Exhibit A, which

service industry. The Group recognised that its business was mature (highly profitable but unlikely to provide much further growth in profits) and saw a need for investment in new areas. The systematic

Exhibit A

Granada Group PLC Business Structure Divisions



creation of Granada has not been the result of entrepreneurial activities or organic growth, but the result of an aggressive policy of acquisition that commenced in April 1986, based on a strategy defined by the parent company, Granada Group PLC.

Raison d'Etre

The Granada Group PLC is a long-established UK company operating within the services industry in what could broadly be described as the leisure sector. Group turnover in 1988 was £1.5 billion, which generated £143 million profit before tax. The Group has a wide range of activities, which extend

also shows that the independent computer maintenance activities are part of the Services to Business Division. Chairman of this division is Conor Kehoe, who is also Chairman and Managing Director of Granada Computer Services International.

“GRANADA- Created by an Aggressive Acquisition Policy”

Entry into the independent computer maintenance market was the result of a Granada Group strategy to seek and invest in a new high-growth

search for a new business was based on three criteria:

- A high-growth industry with visibility and good potential for profit growth
- An opportunity to participate in an industry where the company could develop and sustain a strong leadership position. Put another way, there had to be advantages in size that could not easily be duplicated
- An industry where the company had an understanding of the management task

From these criteria it can be seen that market dominance was

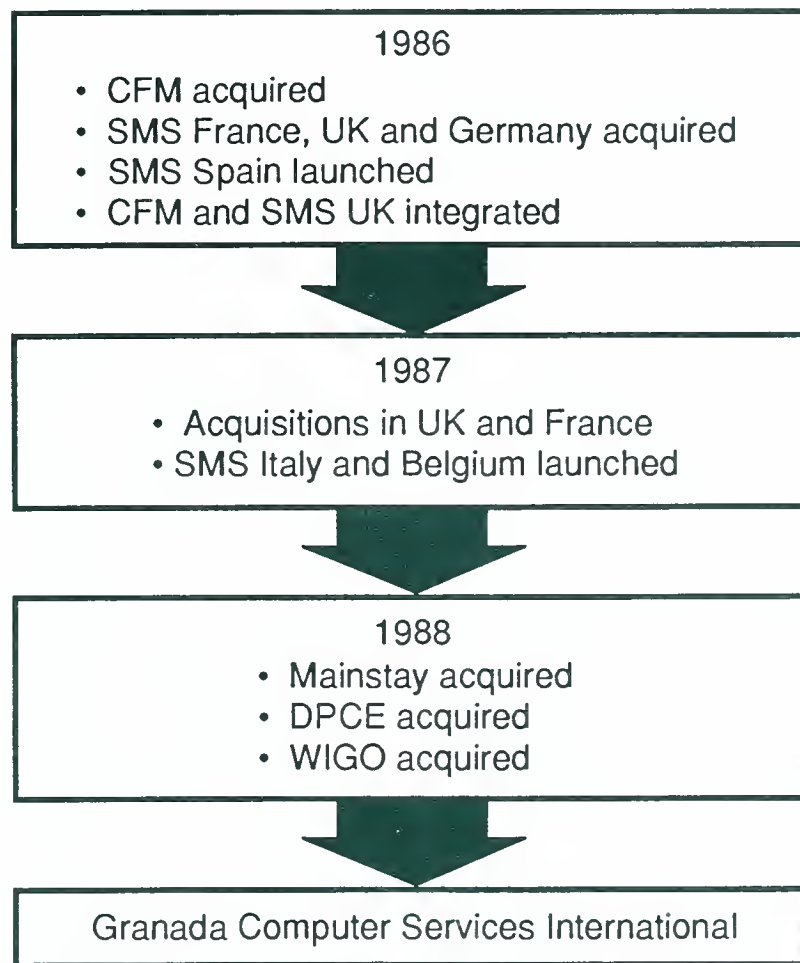
envisaged at an early stage, in fact was a requirement. The independent computer maintenance market fulfilled these criteria in terms of:

- The market had potential for growth
- The market was at that time fragmented but also provided a strong case for leadership on a scale that would permit the servicing of international accounts.
- Granada had existing experience in managing service companies, particularly "on-call" repair, which provided the experience necessary to manage maintenance companies.

Granada's entry into the independent computer maintenance market resulted in a restructuring of the industry. This restructuring resulted from Granada's market leadership. Granada's strategy was the acquisition of companies that were existing market leaders in their own right, although none had achieved the degree of leadership Granada sought. The fact that a number of companies at that time were considered leaders did not diminish what Granada saw as a still-fragmented market. Granada

Exhibit
B

Evolution of Granada Computer Services



organic growth and expansion, the highlights of which are illustrated in Exhibit B, and can be summarised as follows:

- In April 1986 Granada acquired Computer Field Maintenance (CFM), which was at that time a joint market leader in the UK.
- In August of 1986 the opera-

Also in that year, in December, CFM and SMS activities in the UK were integrated.

- 1987 saw a number of smaller acquisitions and the launch of SMS operations in Belgium and Italy.
- In January 1988 Mainstay was acquired. Mainstay was a specialist GSD maintainer with activities in Belgium, The Netherlands and the UK.
- In June of 1988 Granada completed its largest acquisition by acquiring DPCE at a cost of £110 million. At that time DPCE was already an existing market leader with

“The Solution was to acquire the leaders and unite them to form a new leader”

acquired the leaders and united them to form a new leader.

What followed was a chain of acquisitions supplemented by

tions of SMS in France, Germany and the UK were acquired and in September of that year SMS operations in Spain were launched.

Continued on next page

Granada ...from page 3

multinational operations extending to the USA.

- Following these acquisitions Granada decided that operations in Germany were still too small. Therefore in October 1988 Granada acquired WIGO, one of the largest independent maintenance companies in Germany.

Following this chain of acquisitions of previous market leaders, Granada achieved its objectives, becoming the market leader in Europe by a large margin. Further, by achieving this level of market dominance, Granada made it difficult for its leadership position to be challenged. Another TPM company commented recently that after the string of Granada acquisitions there was very little left for any other company that might contemplate similar acquisitions.

Initially some of the businesses acquired continued to trade using their original names; however, the acquired companies now use the name Granada.

Granada Today

In achieving clear leadership within the independent computer maintenance market, Granada spent a total of £ 160 million on acquisitions. Granada now has operations in nine European countries and, through acquisition of DPCE, in Canada and the USA. The extent of Granada's current activities is highlighted in Exhibit C. Not only is Granada the clear

market leader in Europe as a whole, it is also the leader in a number of countries. This position gives the company a critical mass not previously seen in the independent maintenance market. Granada claims a number of strengths that offer advantages to existing and potential customers:

- Financial strength: the company is backed by the Granada Group, which had revenues of £ 1.5 billion and pre-tax profit of £ 143 million in 1988.
- Scale of operations: The large size allows trained engineers and spare parts to be located conveniently close to customers. Granada has over 2,000 engineers in over 100 centres and numerous customer

sites. Granada also has an investment of £ 30 million in spare parts—over 150,000 parts for equipment from over 400 manufacturers. The extent of Granada's capability is illustrated in Exhibit D.

- Range of technical skills: Granada claims a depth and range of skills that are unsurpassed in Europe. The company maintains equipment from all the leading manufacturers and a wide range from the smaller manufacturers, as shown in Exhibit E. Many large customer sites are multivendor—an example quoted by Granada is British Airways, which contains equipment from IBM, NAS, Amdahl, Digital and others.

Exhibit C

European Leader & Multinational Organisation

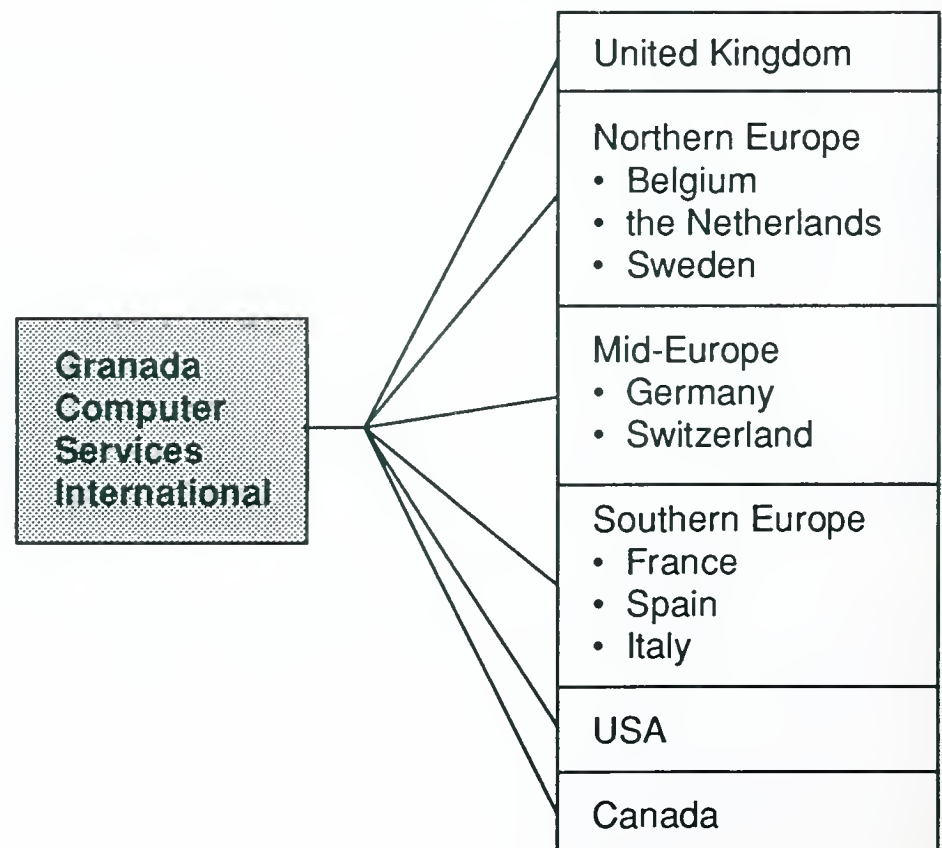


Exhibit D

Scale of Operations

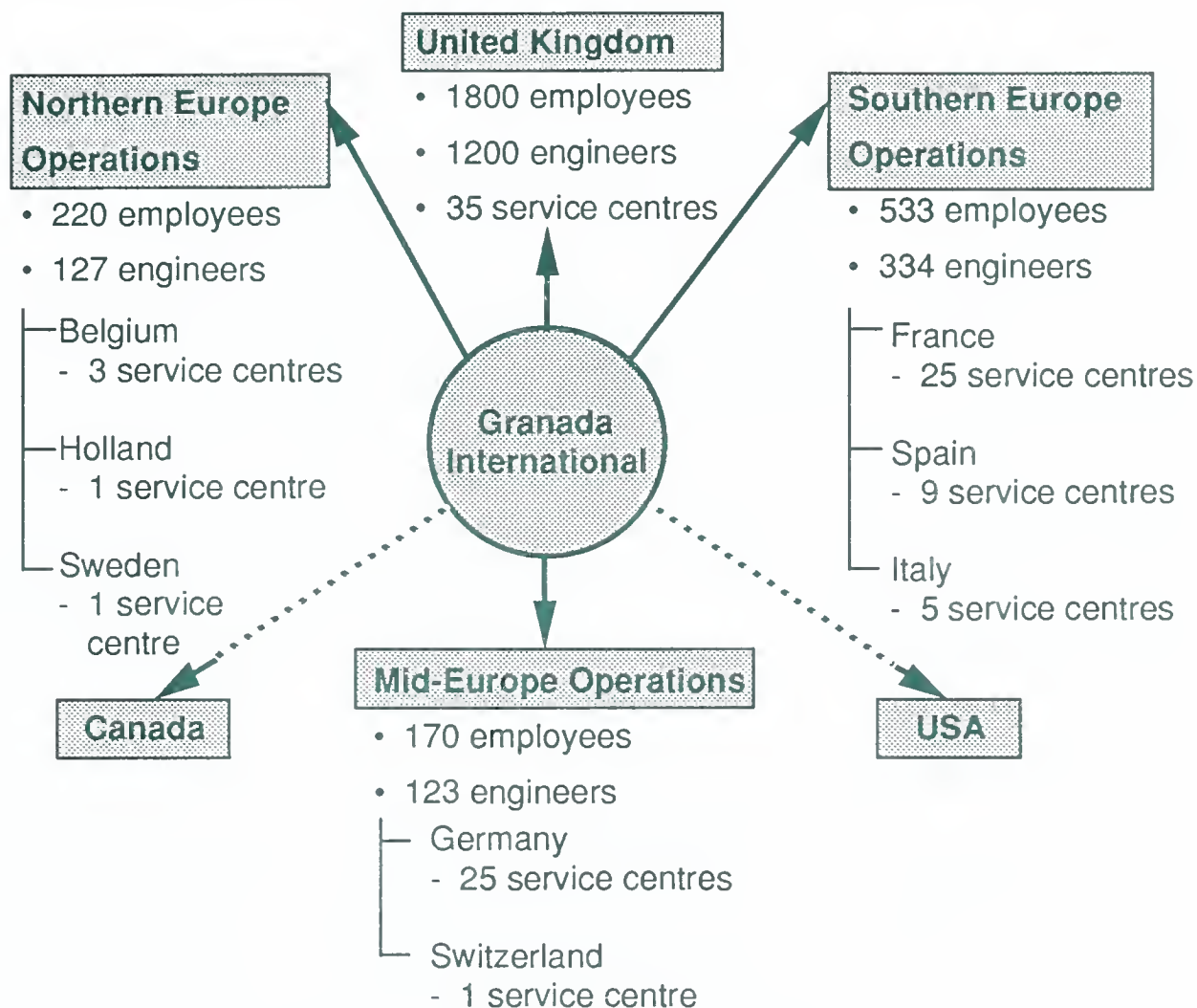


Exhibit E

Over 400 Manufacturers' Equipment Maintained—Including

TI	EMI	MODCOMP	COMPAREX	CIPHER	PRIME
APPLE	APOLLO	BENSON	INTAGRAPH	PLESSEY	MAXTOR
CASE	UNISYS	BASF	OLIVETTI	NOKIA	STC
BBC	CANON	COMMODORE	MITSUBISHI	PERTECH	SI
NCR	CALCOMP	TELEX	DECISION DATA	VERSATEC	RACAL MILGO
HITACHI	HEWLETT-PACKARD	FUJITSU	ERICSSON	SIEMENS	REUTERS
DATA GENERAL	CONTROL DATA	XEROX	BULL	DATA PRODUCTS	MEMOREX
IBM	NAS	AMDAHL	DEC	ICL	WANG

Continued on next page

Granada ...from page 5

- **Infrastructure investment:** Included here is investment in systems that tightly monitor the movement of parts and engineers, thus ensuring high-quality service to the customer. The infrastructure also includes repair facilities (such as clean rooms) and investment in training. An example quoted is the training centre in Fenton, which has seven classrooms and is extensively equipped with sophisticated equipment for "hands-on" training, including a 3090 simulator for training on IBM 3090 computer systems. Engineers spend up to four weeks per year refreshing and supplementing skills at training centres in the UK, France, The Netherlands and Germany.
- **Commitment to quality:** the company is committed to ensuring that quality standards are established, monitored and maintained. Quality is claimed to be a priority motivation related to systems and training investment.

The strengths of Granada are summarised in Exhibit F.

The company intends to do what is does best, for example:

- Total systems maintenance for large multivendor accounts
- High-quality, cost-effective solutions for single vendor users

Exhibit F

The Strengths of Granada

- **Financial**
- **International operations**
- **Technical Skills**
- **Infrastructure**
- **Commitment to quality**

- As the industry leader, support for other industry participants, such as:
 - Offering a ready-made network for smaller OEMs, VARs and systems integrators.
 - Offering parts repair and training to smaller specialist-niche independent maintenance companies

Future Directions

For the future Granada plans to continue geographic expansion and to develop its range of related service as a complementary activity to the core business of hardware maintenance.

Geographic expansion is likely to be in two forms:

- Increased market share outside the UK to bring the rest of Europe more in line with the UK market presence
- Increased market share in the North American market, particularly to develop a larger presence in the USA

The method of achieving these continued growth patterns is not clear but, based on the process that created Granada, it would be both naive and premature at this stage to rule out further acquisitions. However, with the position of dominance already achieved, a combination of acquired and organic growth may be appropriate.

In terms of developing related services, Granada would seem well positioned because it has a presence already established in some areas. The areas covered by these related services include:

- **Disaster Recovery:** through a subsidiary, acquired as part of DPCE, Granada currently has a presence in this market sector: Computer Disaster Recovery (CDR) is already well established in the UK. This company has already begun a European expansion programme and offers disaster recovery services in the mobile sector of the market.
- **Network Design and Installation:** Granada offers a consultancy service for users designing wide-area networks (WANs) and local-area networks (LANs). This service can be supplemented with a cabling, installation and maintenance capability.
- **Installation and Deinstallation:** Granada provides these services for users, manufacturers, brokers and lessors.
- **Features and Upgrades:** Granada offers a service for which the key is flexibility.

Granada would source the parts required to enhance and upgrade machine performance within constraints defined by customers.

- **Brokerage:** this service can take two forms. The first is a traditional brokerage service offered through DPCE products. The second is a computer exchange, which is a new computer-based information service available to users and intermediaries.

- **System Software Support:** Granada has an expanding operating system software service to assist users in installing software upgrades and in diagnosing problems with operating systems software.

However, one major question remains unanswered—what are Granada's next acquisition targets and in which sector of the market will they be located? ■

Worldwide Restructuring at NCR

Announcement of financial downturns seem fairly commonplace among the major multinational computer companies, particularly as the market in the USA remains "soft". The announcement by NCR that first-half revenues were flat at \$2780 and that net profits were down 8% is more a characteristic of the market than a reflection of the company's performance. However, NCR has responded by announcing reorganisation of the company into two new groups—the Direct and Indirect divisions.

The groups are a reflection of the company's marketing strategy and comprise an Integrated Systems Group, which will provide integrated systems solutions for end users, and a General Purpose Products Group, which will provide general-purpose computer products for NCR and third-party integrators.

The Integrated Systems Group will operate through the NCR direct sales force and will consist of five divisions, including a new Self-Service Systems Division based in Dundee, Scotland. Other divisions within this group include a new Financial Systems Division in North America; the systems engineering facility based in the Netherlands; a new Office Information Systems Division based in the USA; and the Retail Systems Division based in North America. The General Purpose Products Group will focus on the development of general-purpose processors and systems to be used by major accounts as well as OEM customers, resellers, distributors and independent software vendors. A new Workstation Products Division is included in this group and will include the former Personal Computer Division.

As part of the restructuring, NCR also created an Executive Committee whose purpose is to review organisational strategies and corporate projects. ■

New Hewlett-Packard Software Distribution Technology

Hewlett-Packard is implementing new technology in the distribution of software. The company will start distributing software for its 3000 range of products through the medium of CD-ROM. HP claims to be the first user of CD-ROM technology in the software distribution field and plans to distribute a range of software that will include operating system updates. The programme termed Laser Release will include software installation tools and a CD-ROM drive that will ship in October this year. ■

Snippets

- ❖ Granada Computer Services will be servicing Commodore Business Machines' new warranty in the UK. Commodore is now offering one year's free on-site maintenance for its range of personal computers (excluding the Amiga); the service will be provided by Granada.
- ❖ The French software and services company Concept Group SA continues to expand. Previously the group had acquired two leading third-party maintenance companies in France, Spectral and MIS, making the group a leading European company in this market sector. The Concept Group, through its subsidiary Tech-

Continued on next page

Snippets...from page 7

nic Informatique, has now acquired a 75% holding in the Dutch software group Holland Automation International. Holland Automation, with an expected turnover of \$11 million this year, provides an integrated international range of financial and administrative software packages. Concept's subsidiary Technique Informatique will nominally manage Holland Automation. The remaining 25% of shares will continue to remain with the Holland Automation board.

- ❖ In the UK, IBM has announced that most hardware prices will increase by 5% and software prices by between 8% and 10%. The company claims that the price increases are due to rising costs and the falling value of the pound (£) against the US dollar. A 5% price increase is applicable to most hardware products effective from 21 August; products excluded from the increase include the PS/2 laptop and Model 70, 4381 and 9370 processors. Price increases for software are also effective from 21 August on One Time Charge and Program Package software; monthly software charges increase effective 1 September. IBM Licensed Programs or Program Products will increase by generally 8%, while monthly and One-Time charges will increase by 10%. Software price increases affect a variety of products, including S/34 System Support Programs and

Utilities, S/36 System Support Programs and most AS/400 products.

- ❖ Commodore in the USA is restructuring and expanding its third-party support operations, part of the initiatives being implemented following appointment of Mr Henry Copperman as president earlier this year. The number of staff involved in applications and providing technical support for third parties will double; in addition, these activities will report directly to the president (previously they were part of the Research and Development Division). Further developments planned include the creation of a developer's advisory board, a global communication network, more active participation in third-party projects and the provision of marketing in addition to technical support to third parties. The company also wants to be in a position to offer a wider range of software, particularly in the business market. Commodore also has its eyes on Europe as a target.
- ❖ IBM ambitions in the US service market have been enhanced. Automatic Data Processing Inc. of New Jersey has signed a multiyear agreement for IBM to provide site preparation, installation, maintenance and support services to ADP's Brokerage Service clients. Previously these services were provided directly by Automatic Data Processing.

- ❖ Following in the footsteps of some of its colleagues in the industry, Sun Microsystems has implemented a hiring freeze on non-revenue-generating areas within the company. This freeze is in reaction to recent downturns in profitability and will become effective on 1 July. This move—which is being introduced together with cutbacks in travel expenses and other discretionary spending—will remain in force for three months at least.
- ❖ In more disaster recovery activity within the UK, the Criterion Group has launched a disaster recovery service for IBM S36 banking community users in the City of London, the heart of UK's financial world.
- ❖ FKI Data Recording Group has acquired Nationwide Systems Engineering, a maintenance company, from Norbain Electronics. Following the acquisition, Newbury Data Maintenance, an autonomous business unit within the group, will have a total of 120 employees. This acquisition could signal a turnaround for a group that, in June 1988, was acquired by FKI Babcock for the sum of £1 (one pound). Restructuring of the group could result in further acquisitions.
- ❖ Unisys has joined other companies in announcing a salary and hiring freeze. The salary freeze will remain in force at least until the end of the year, whereas the hiring freeze is currently indefinite. Other cost-cutting plans are

in progress, including reductions in second-half budgets for R&D, capital expenditures, administration and travel expenses.

- ❖ In an attempt to bypass a UK shortage of skills, ICL has plans to launch a new training centre near Dublin. The Republic of Ireland is said to have the highest proportion of computer science graduates in the EEC. A focal point of the new training centre will be UNIX courses.■

News from the USA

Spotlight on "VAM/Surety": Unisys' New VAR Incentive Program

In recognition of the growing importance of alternate distribution channels in the marketing strategies of information systems companies, Unisys is gearing up to introduce a revised VAR incentive programme to help increase sales of its maintenance services.

Similar to IBM's Remarketer Plan, Unisys' VAM (Value-Added Marketer)/SURETY

consists of two programmes. The Referral Program allows the reseller to act as an agent for Unisys customer service, selling contracts for a one-time 25% commission. Unisys handles accounts receivable and billing, and provides all maintenance services. The Remarketer Program is available for more-sophisticated VARs with support capabilities of their own. Unisys sells the maintenance contract to the dealer at a 25% discount; the dealer then resells to the end user, typically in combination with the dealer's specialized services. Dealers must exhibit high customer satisfaction in order to qualify for the program, and they must set up a help desk to take initial calls to screen software and operator problems. These dealers are held to a quota of \$25,000 per year in cumulative maintenance sales (which amounts to approximately 12-13 contracts). Unisys is still responsible for all administrative transactions, but plans to shift those responsibilities to the remarketers eventually.

Sales through VAR channels account for \$300 million, or about 10% of Unisys' total sales. Previous Unisys VAR incentive programmes, consisting of a 12% commission and a 9% advertising fee, have not been effective in boosting sales of Unisys contracts. With VAM/SURETY—planned for availability in September 1989—Unisys hopes to achieve more market penetration through its dealer channels. ■

News from the USA

Sun Microsystems to Partner with Third-Party Maintenance Organizations

It appears that Sun Microsystems' customer service strategy will be following the company's product strategy: rather than competing head to head with third-party maintenance organizations (or clone-makers), the workstation vendor will be seeking partnership with a number of third-party service vendors to augment its own customer services, which have a reputation for providing inadequate support.

A recent issue of *Business Week* quotes Carol Bartz, vice-president of Sun Microsystems' customer service division, as saying that the company "(doesn't) intend to build a dinosaur service group" now that margins on maintenance service seem to be shrinking. Instead, the company will be

forging alliances with TPMs in a program it expects to launch quietly by the end of this year. The company currently makes documentation and spare parts readily available to third parties, but has not formalized any relationships.

Quite a few TPMs have made overtures to Sun already, and the company is beta testing vendors to narrow the list of candidates.

Word has it that Sun has also approached OEM manufacturers about providing support for Sun products. Sun provides backbone support to resellers of Sun systems, but could be trying to shift more of the support burden to large resellers with more extensive customer support capabilities. ■

News from the USA

Update on Control Data Corporation

Control Data Corporation's business has undergone major changes of late—and that's an understatement.

After closing its ETA Systems supercomputer operation and streamlining its Cyber mainframe business in April (approximately 3,100 jobs were cut), CDC sold its Control Data Institute and Institute for Advanced Technology education units to newly formed Human Capital Corporation (Edina, MN) for an undisclosed amount. Earlier in March, CDC sold its European Control Data Institutes to Australian-based Computer Power Group Ltd.

In May, CDC sold its Action Data Services unit, which provided data processing and support products to financial institutions, to PRIMERICA (St. Louis, MO). In June, CDC announced the sale of its successful data storage products subsidiary, IMPRIMIS, to leading disk drive manufacturer

Seagate Technology (Scotts Valley, CA) for \$450 million. The data storage unit, which had posted \$1.5 billion in revenue for 1988, provided nearly one-third of CDC's total sales. June also saw the sale of CDC's European third-party maintenance arm to Thomainfor, a subsidiary of Thomson-CSF of France (although maintenance of Cyber products will continue to be performed by CDC). INPUT profiled the Thomainfor acquisition in the last issue of *Service Update*.

In July, CDC announced that it had signed a letter of intent to sell the remainder of its training and education business to Chicago-based William R Roach & Associates. CDC plans to retain a 20% interest in the new company being formed by Roach & Associates.

CDC's poor financial performance in 1985 and 1986 (which resulted in losses of \$832 million), in addition to competitive

pressures within the mainframe computer market, have necessitated this major restructuring and flurry of asset sales. CDC was able to head off a technical default on its existing loans earlier this year, but a restructuring charge of \$490 million leaves the company with less cash to restore its data systems business and expand its systems integration base. More asset sales are likely, and, keeping in mind CDC's announced intention to sharpen its focus on data systems and data processing businesses, prime candidates should include CDC's US-based third-party maintenance group.

INPUT estimates that CDC's maintenance revenues declined slightly from \$400 million in 1987 to \$395 million in 1988. Third-party maintenance revenues had increased slightly last year, but this increase was offset by a decrease in maintenance revenue for CDC's Cyber products. ■

News from the USA

Unisys Introduces "Surety": Integrated Services for the UNIX U Series Systems

In June, Unisys launched an integrated hardware and software support programme for the company's fast-growing UNIX-based U Series systems.

Called "SURETY", the single-contract service offering pro-

vides four levels of support: Intro, a centralized telephone support (1-900 number) service; Basic, offering integrated HW/SW telephone support, electronic bulletin board services, full parts replacement, carry-in service and preferred rates on

Unisys supplies; BasicPlus, including Intro and Basic services, toll-free telephone support, preventive maintenance, on-call hardware and software support, hardware reliability enhancements, new software releases, and preferred rates on environ-

mental products; and Comprehensive, including all services listed above as well as installation services, guaranteed response time, guaranteed telephone access, and on-call service beyond the principal period of maintenance. All levels of service provide free installation, and coverage is restricted to Monday through Friday, 8 a.m. to 5 p.m. local time. Exhibit G shows the service offerings available under SURETY's programs.

Pricing is determined by the system configuration. At the low end, Intro services for the U5000/30B (which supports 16 users) is charged at a monthly rate of \$40, while Comprehensive services for the same system cost \$270. At the high end, the Comprehensive coverage monthly maintenance charge for a U5000/90B system (which supports over 32 users) is \$762 and \$1535 for the U7000/40.

Unisys plans to release SURETY for the PC/PW series in the fourth quarter, and for the remaining product lines in the first half of 1990. SURETY doesn't yet apply to third-party products integrated with Unisys systems, but plans are being considered to extend SURETY coverage to products under multivendor service contracts.

Exhibit G

Surety Service Offerings

	Intro	Basic	BasicPlus	Comprehensive
Telephone Support— Hardware & Software				
<i>Technical Assistance</i>				
— 1-900 Call	✓	✓		
— 1-800 (Toll-Free) Call			✓	✓
<i>Trouble Reporting</i>				
— 1-900 Call	✓	✓		
— 1-800 (Toll-Free) Call			✓	✓
<i>Electronic Bulletin Board (License)</i>	*	✓	✓	✓
Remedial Services— Hardware & Software				
<i>Essential Engineering Changes</i>	✓	✓	✓	✓
<i>Replacement Parts</i>		✓	✓	✓
<i>Carry-In/Ship-In Service</i>	*	✓	✓	✓
<i>Reliability Enhancements</i>	*	*	✓	✓
<i>Software Maintenance Releases</i>	*	*	✓	✓
<i>On-Call Service</i>				
— Principal Period of Maintenance (8 am - 5 pm)	*	*	✓	✓
— Your Hours	*	*	*	✓
<i>Guaranteed Response Times</i>				
— On-Call Hardware Service				✓
— Telephone Support (8 am - 5 pm)				✓
Special Services				
<i>Preventive Maintenance</i>	*	*	✓	✓
<i>Installation</i>	*	*	*	✓
<i>On-Site Operations Reviews</i>	*	*	*	✓
Preferred Pricing				
<i>Unisys Supplies</i>		✓	✓	✓
<i>Education</i>		✓	✓	✓
<i>Environmental Products</i>			✓	✓

✓ Features included in Unisys Surety

* Available on a fee basis. PPM labor at preferred rates.

Software: Systems and environmental software. Applications software covered separately.

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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- 3 Concept S.A. Acquires M.I.S and Spectral in France
- 3 IBM Announces Serviceplan

IBM Introduces Common Checking Procedures for Imported Equipment...

IBM has agreed to establish common checking procedures for all equipment imported from the U.S. that requires conversion from 60Hz to 50Hz. This move came as a result of complaints made by Eclat (the European Leasing

Association) to IBM about differences across countries with regards to the attitude of IBM engineers checking equipment that has been converted. Since IBM requires these checks to be made by its engineers before IBM agrees to maintain the

equipment, IBM has agreed to set up common procedures and guidelines to be followed by IBM engineers across Europe to avoid differences in the standard. ■

User Saves £500,000 per Annum on Maintenance ...

HFC Bank Plc has considerably cut its maintenance costs by replacing its IBM 4381 mainframe with the 190 IBM

AS/400. John Hogan, HFC's DP Manager, told INPUT that the bank was able to save considerably (about £500,000 per annum)

on maintenance because the new equipment needs less maintenance than the old IBM

Continued on Page 2

User Saves... from page 1

4381. However, he also said that the main part of the sav-

ings came from software support, which on the AS/400 is a one-time charge. In updating its computer system, HFC is also plan-

ning to acquire 1,600 PS/2s that will be networked to the AS/400. ■

Reorganisation at Tekserv ...

In a recent reorganisation of Tekserv—the third-party maintenance arm of MAI Basic Four—the European headquarters of the company was closed. Tekserv's new headquarters is based in California, U.S.A. and operates under the name of NACS (North American Customer Services). European subsidiaries now operate on national levels, reporting directly to the American head office. ■

Restructuring at Granada Computer Services (France) ...

The French subsidiary of Granada Computer Services has been reorganised to form four divisions within the company. This move follows the company's acquisition of four companies—namely SEMSI, specialising in environmental planning and services; INTERSYSTEM, a company offering maintenance insurance contracts to IBM users; INFOMAT, a third-party maintenance company specialising in the maintenance of banking equipment; and DPCE (France), a TPM vendor and com-

petitor of Granada before the acquisition of DPCE by the Granada Group.

The restructuring of the company now includes four principal activities:

1. Third-party maintenance on a wide range of equipment, including mainframes, PCs and peripherals
2. Maintenance of banking equipment—ATMs, EFTPos, etc.
3. Maintenance insurance
4. Environmental services ■

Maintenance Insurance — A New Trend for Third-Party Maintenance?

Maintenance insurance contracts allow users to cover the cost of maintaining their computer equipment without having a contract with a "dedicated" service vendor. A maintenance insurance policy is therefore very similar to most other insurance policies. There is, however, one difference: a maintenance insurance contract is not sold through large insurance companies and their brokers, but by companies that specialise in selling such contracts. Customers that have maintenance insurance call the equipment manufacturer on a time and materials basis, and

settlement of the account becomes the responsibility of the insurance vendor.

One of the unique characteristics of the maintenance insurance vendors is that they are neither a TPM nor a manufacturer and although they have technical expertise, they do not offer on-site support services. It should be noted that with the exception of Granada Computer Services (France), maintenance insurance is currently offered only to IBM equipment users.

One of the pioneers of maintenance insurance was the Swiss

company Mutual Maintenance Computer (MMC). Founded in 1982, the company set out to offer IBM users maintenance contracts priced 30% lower than the IBM prices. In 1984, MMC opened a French subsidiary that by 1988 had 1,200 clients and turnover of 50 MFF (approximately \$8 million). Other players in this market are Alphadis and Intersystem (now acquired by Granada Computer Services). With the acquisition of Intersystem, Granada Computer Services in France is now the first third-party maintenance company to offer its customers the choice of manufac-

turer's service or third-party service.

It is interesting to note that by and large maintenance insurance vendors have a much more

prominent presence in France than in any other European country. INPUT's investigation into the reasons for this has shown that it is primarily a result of users' preference for manufac-

turer service. The combination of offering manufacturer service as well as attractive pricing has been the essence of success for maintenance insurance vendors. ■

Concept S.A. Acquires M.I.S. and Spectral in France...

Two of France's major TPM companies, Spectral and MIS, have recently received an offer for acquisition by the French software and services company Concept. Concept's principal sector of activity has been within the banking and

finance sector. Given both TPM companies' strong bias toward the maintenance of banking equipment, the acquisition of MIS and Spectral is an extension of the services currently offered by Concept.

MIS revenues in 1988 totalled 65 MFF, and Spectral, the number-one French TPM vendor, had a turnover of over 120 MFF. ■

U.S. COMMENTARY

IBM Announces Serviceplan...

IBM has recently announced a new service offering—Serviceplan—aimed at consolidating all IBM service offerings into one contract, thus providing customers with savings opportunities, including the option of reducing administrative costs through single invoice estimated billing.

Serviceplan offers customers the full range of IBM services from a one-page document featuring an icon-style menu. Serviceplan gives customers the option of receiving one bill for services based on a joint estimate with IBM of projected maintenance needs. This option allows customers to establish an estimated bill for all their equipment on a yearly basis. The estimated charge will not be changed unless a variance in machine quantities or services to be per-

formed reaches a specific threshold. Payments are made in quarterly or monthly instalments. Serviceplan is thus offered to users as a master contract, eliminating most paperwork by calling for one customer signature. Estimated billing will be made available to all customers as part of a phased implementation continuing throughout 1989.

In addition, Serviceplan eliminates the requirement that customers have an IBM processor or ROLM CBX to qualify for Network Support, formerly called Telecommunications Services, Network Support. Through Serviceplan, customers may also order services provided by the IBM Information Network. The Information Network is a commercial, value-added network for the exchange of business data.

IBM is now offering discounts ranging from 18% to 30% on new equipment maintenance if a user pays the total in advance for a three-, four- or five-year contract. This announcement had been made for the AS/400 but is now extended to other processors and is called Extended Maintenance Option.

IBM also announced a new remarketer programme allowing customers to match service solutions to their specific needs in two ways. The first is that customers may order IBM services directly from IBM Authorised Remarketers. The second allows customers to order IBM services that have been supplemented by Authorised Industry Remarketers through their service offerings to meet highly specialised customer requirements. ■

About INPUT

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Service Update

Route:

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April 1989

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- 1 Philips Business Systems Enters the Third-Party Maintenance Arena
- 1 Rank Xerox Executives Earn 2.5% Extra
- 2 Apricot Computers Increases Its Stake in DDT to 29.75%
- 2 Company Profile: Geveke Electronics
- 3 Unisys Offers A la Carte Services

Philips Business Systems Enters the Third-Party Maintenance Arena...

Philips Business Systems recently announced its plans of entering the third-party maintenance market. Although this represents a new move by Philips, the company had until now been servicing equipment not

manufactured by itself for customers who had Philips equipment under maintenance.

Philips' third-party maintenance activities will be centered around servicing PCs,

minis, ATMs and PABXs. The new division will be headed by Bob McCoig whose main responsibilities will be in the marketing of customer service and third-party maintenance. ■

Rank Xerox Executives Earn 2.5% Extra ...

Last year, Rank Xerox announced its intentions to link managers' pay rises to the degree of customer satisfaction and customer loyalty. In order to do this, over 1,000 Rank Xerox customers participated in an independent survey throughout Europe.

Customer loyalty was measured by calculating the proportion of products with customers at the start of the year which were still with the customers by the year's end.

Target levels for customer satisfaction and customer loyalty were established at

85%, with salary rises based on the degree to which this benchmark was exceeded. As a result of this survey, 135 Rank Xerox executives earned an extra 2.5%. The success of the scheme has led Rank Xerox to extend the plan to a broader cross-section of the company's employees. ■

Company Profile: GEVEKE ELECTRONICS

Company Update

Geveke Electronics, a subsidiary of the Dutch Getronics Holdings, has been operating as a third-party maintenance (TPM) vendor in the Netherlands since 1977. Geveke has concentrated its efforts primarily in the Benelux market where in 1986 it opened its first office outside the Netherlands in Belgium. Geveke's plans are to continue expanding in the European TPM market. In April 1989, Geveke will be opening a new subsidiary in Barcelona (Spain).

Geveke's European TPM revenues in 1988 totalled \$28 million, and the company anticipates revenues to increase by 15% in 1989.

Maintenance Operations

Geveke's operation has 400 service personnel dedicated to field service operations. Geveke offers all types of support services, ranging from depot repair to time &

materials and the provision of on-site engineers, but over 50% of the company's business is derived from contract customers. Service coverage in the Netherlands and Belgium is national with six service centres in the Netherlands and four service centres in Belgium.

Although the only service offered by Geveke Electronics is maintenance, through other subsidiaries of Getronics, Geveke is able to offer its Dutch client base a wide range of services. One such service is cabling and installation, primarily for networks, carried out by Electronic Engineering. Furbex, another company in the Getronics group, supplies low-cost service for PC repair and carries out tests and modifications as well as offering computer brokerage and refurbishment services.

Service Coverage

About 55% of Geveke's revenues are derived from the IBM and compatible PC market-

place; 20% from the maintenance of networks; 15% from peripheral maintenance; and 10% from servicing of IBM and MAI minicomputers. Geveke, however, plans to expand its mini computer maintenance operations and will add DEC (Microvax) and Wang to its portfolio in 1989.

Services provided by Geveke include: planning, consultancy, application software support, system software support, network support, system configuration, installation and de-installation services.

Competitive Focus

Geveke originated its third-party offerings within the PC compatible and network support marketplace and continues to maintain its primary presence within this arena. Over the past few years, Geveke has expanded its product menu to include minicomputers but does not as yet envisage entering the mainframe maintenance market.

Apricot Computers Increases Its Stake in DDT to 29.75%

Apricot Computers which last year took a 20% stake in the shares of DDT Group has now increased its share to 29.75%. This follows Apricot Com-

puters' intentions to enter the third-party maintenance market, although rumors of Apricot taking over DDT have so far been denied by both companies. ■

Geveke believes that its success in TPM can be attributed to its ability to offer a comprehensive range of services within the Getronics Group without the need for subcontracting.

Geveke feels its primary competition is coming from manufacturers, IBM in particular.

Geveke considers this competition to be "unhealthy" as it involves an aggressive price-cutting policy by the manufacturers to the point where

profit margins can no longer be sustained.

A strategy that is now being pursued by Geveke is cooper-

tion with manufacturers by means of "sharing" contracts, with each side concentrating on what it does best. ■

Unisys Offers A la Carte Services ...

Unisys has recently announced the introduction of a new service offering. A la Carte, aimed at tailoring maintenance to match user needs, is a total maintenance and service package based on four incremental levels of support. A la Carte is designed to give customers a comprehensive choice of services ranging from telephone help to full on-site support covering both hardware and software (see Exhibit A).

Exhibit A

UNISYS A LA CARTE SERVICE

- Service 200 - Telephone Support
- Service 300 - Depot Repair
- Service 600 - Contracted On-Site Repair
- Service 700 - Guaranteed Systems Availability

The four levels of Unisys' A la Carte services include:

SERVICE 200 provides telephone support for problem solution during normal working hours. In the event that a problem cannot be solved over the telephone, further assistance will be provided by an on-site visit charged at a preferential rate. Service 200 automatically entitles users to system updates on Unisys supported system software at a nominal charge. Service 200 also provides users with regular briefing on new hardware and system software products.

SERVICE 300 is essentially a depot repair service for hardware at a Unisys Support Centre. This option also provides users with systems software error corrections, priority on-site maintenance (fixed fee) and hardware updates. All services available under Service 200 are also provided to Service 300 users.

SERVICE 600 is an on-site, or whenever possible, a remote access service. Other services included are: regular systems checks, preventive maintenance, system software updates and reliability improvements. All services available

under Service 200 and 300 are also included.

SERVICE 700 is the highest level of service guaranteeing the highest possible system availability. System availability is guaranteed depending on the type of system, configuration and operation. In addition to services offered under A la Carte 200, 300 and 600, Service 700 also offers guaranteed response time (agreed with the customer), workthrough beyond normal working hours and free site surveys to ensure that foreseeable problems are identified and remedied. ■

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- 6 News from the USA—HP Opens New HQ for World-Wide Support

Management Buy Out Forms New Independent Fourth-Party Maintenance Company

A new fourth-party maintenance company has been formed following a management buy out of Rank Xerox (UK) Ltd's, St. Helens Photocopier Refurbishment Division. The new company, appropriately named 4PM Ltd, will operate within the independent fourth-party maintenance market.

The management buy out was led by Richard Grace of Rank Xerox (UK) Ltd and Patrick Renn of British Olivetti Ltd, involving the business assets associated with refurbishing and an existing work force of approximately 58 people. The two leaders of the management

buy out will head up the new company as joint Managing Directors; Richard Grace will be responsible for sales and marketing and Patrick Renn for operations. The management team will be joined by John Bache OBE, ex-director of both IBM and ICL. Together with two senior managers of the division the management team has taken a substantial equity stake in the new venture, with additional funding provided by clearing banks.

The new company, 4PM Ltd, has secured a three-year contract with Rank Xerox UK worth in excess of £3 million and

intends to diversify the business within the growing high technology fourth-party maintenance sector. In a statement, Richard Grace said "we are a new and significant entrant in this growing market. Our skill base and comprehensive plant makes us very competitive from day one in both price and quality for volume repairs and refurbishment of high technology equipment."

Following announcement of the management buy out, INPUT spoke to Richard Grace, one of the leaders of the buy out and

Continued on page 2

Fourth-Party...from page 1

joint Managing Director of 4PM Ltd, to obtain further details and an insight to future plans.

In making the acquisition, 4PM has bought a facility which has been progressively developed over the last 15 years, including a ready-made base of skills and experience. Richard profiled fourth-party maintenance as follows:

- Space intensive
- People intensive
- Skill intensive

Operations of 4PM Ltd are centred in St. Helens Merseyside, near Liverpool. The facility is adjacent to the M62 motorway for good access and transportation and also close to the Freeport of Liverpool. The plant comprises 28,000 square feet (approximately 2,800 square metres) of factory and office space and costs are claimed to be substantially lower than those in the South East of England (currently £2 per square foot per annum was quoted). Availability of skilled labour is also much better in the Merseyside area.

company's refurbishing activities cover three market segments.

- Photocopiers
- Information Systems Hardware (i.e., small computer systems)
- Office Electronics (i.e., fax machines)

Refurbishment of information systems hardware is estimated to provide 30% of company revenue with a growth factor projected in excess of 30%. Facilities include the capability to refurbish equipment to an "as new" standard, including cosmetics. To achieve this the company has:

- Full painting facilities
- Cleaning equipment that has the ability to "wash" complete equipment such as small computers, using an immersion technique. A dehumidifier

Exhibit A

NEW U.K. FOURTH-PARTY MAINTENANCE COMPANY

- 4 PM Ltd.
- Buy out from Rank Xerox
- Mature operation
- Forecast 30% growth
- Refurbish to "as new" standard
- Future diversification planned

- Screen printing for the replacement of lettering/logos etc., and re-badging if required

Although 4PM Ltd has the capability to repair and refurbish complete small computer systems, including printed circuit boards, Richard Grace stressed that the company has no plans to start repair or refurbish of disc drives. This work will be subcontracted to a specialist company.

The company can be contacted at:

4PM Ltd
LEA GREEN ROAD
LEA GREEN
ST. HELENS
MERSEYSIDE
WA9 4QF
TELEPHONE: 44(UK) 0744
814645 ■

“£3 million contract with Rank Xerox”

Annual revenue is quoted as being £2.0 million and the new management is projecting growth at 30% per annum. At present, the sole source of income is derived from Rank Xerox but the company plans to diversify to include other manufacturers product ranges. The

fier is then employed to dry the equipment to a level which satisfies safety standards.

- A process for returning clear plastic to "as new" condition by removing scratches and other blemishes

Management Buy Out at Meridian

Closely following on the heels of the management buy out of Rank Xerox Merseyside refurbishing operations, Meridian Computer Engineering has also gone through a management buy out.

A £1.5 million management buy out of Meridian Computer Engineering was led by David Donovan (UK Managing Director) and Daniel Schneider (French Managing Director). The newly formed company is called ITM. The original company is reported to have lost £100,000 per year in the UK,

although the French operations were profitable.

Former owner, Meridian, has been looking to buy third-party maintenance companies for some time but found that after recent acquisitions by Granada only smaller companies remained. After trying to acquire businesses, the company concluded that a policy of acquisitions would take too long to complete.

The UK operations of Meridian Computer Engineering were reported in 1988 by INPUT as

forecasting revenues of £5.0 million for that year, having achieved £3.8 million in 1987. The company employed 45 people of which 35 were engineering staff and operated from three services centres.

The new company plans to expand its IBM mainframe and mid-range maintenance and service business. ■

Apricot Offer for DDT Accepted

In the last issue of *Service Update*, INPUT reported that Apricot Computers had increased its stake in the DDT Group to a 29.75% shareholding. Although at that time takeover rumours were denied by both companies, INPUT can now report that Apricot has received acceptance of an £8 million offer for the DDT Group. Acceptance is from holders of 95% of the stock.

Although a rival bid from Vistec was already on the table when Apricot made its approach, this "all paper" bid faltered. Vistec decided that it would not add a cash alternative to the terms of its offer. Initially favouring the Vistec offer, DDT recommended that the Apricot bid be accepted by shareholders.

Apricot Profits Fall

Two weeks after acceptance by DDT stockholders of the Apricot

bid the company confirmed a sharp fall in profits for 1989. This does not infer a connection of course.

Apricot confirmed that full-year profits will fall by 25% to \$6 million. The major reasons given were a shortage of components which held up shipments of new products in the third quarter, and a downturn in orders that reduced the financial systems division profits by 65%. The computer systems division profits were reduced by 61% as well as a reduction in international sales.

Apricot anticipates that sales of its new Qi machine will help improve this situation.

However, Apricot Computer Services' profits increased by 40% in the second half of 1989 to £3.4 million. ■

Changes at Spanish TPM Companies

At the recent (19/20 April) INPUT Customer Services Conference in London, there was some confusion over the ownership of two Spanish TPM companies, MORSA and ELTEC.

INPUT has checked and found the following:

First, ELTEC acquired a 100% ownership of MORSA early this year. Then, AGBA the Barcelona Water Authority (the previous owners of MORSA), in April of this year, took a 45% shareholding in ELTEC—which owned 100% of MORSA.

For the present time, the two companies will continue to trade under separate names, and although ELTEC currently has no plans to completely merge the two companies under one name, INPUT believes that eventually this will happen.

The combination of ELTEC and MORSA is forecasting revenues of PTA 1600 million in 1989 and

Continued on page 4

Changes...from page 3

the group now employs a total of 200 people. Originally, the strength and activities of ELTEC were within the banking and financial sector. Combining

with MORSA will allow diversification into other markets. Banking and finance still contribute just under 50% of the revenues.

Complementing ELTEC's presence in the banking and finance

sector is MORSA's specialisation in the servicing of micro-computers and the non-banking sectors. The revenues of the combined group are 100% derived from third-party maintenance. ■

IBM Moves into Disaster Recovery

For the first time IBM has launched a disaster recovery service (DRS) in the USA. The announcement covers backup services for medium-range and large-systems users in the event of unplanned down time. Users can subscribe to the Business Recovery Service for periods ranging between one, and five years with charges of

between \$500 and \$4000 per month. Initially, IBM will have three mainframes and a mini available in Florida and is planning a second operation for New Jersey later in the year.

This has been termed "IBM's long awaited move" into the business. However, INPUT believes that IBM Germany is

already in the disaster recovery market. Recent information indicates that IBM Germany has approximately 13 customers and are using the 4381 to provide DRS in the "mobile" sector of the market.

Nevertheless, the announcement by IBM in the USA could be significant. ■

Cable News

A new company, MBA Cables, was launched in the UK in March by the computer brokers MBA. The new company is to provide low-cost cabling for mid-range computer installations.

Cabling, it is claimed, can add 30% or more to the cost of a medium- or large-range system. MBA estimates that since the AS 400 was launched in the UK, just less than a year ago, the UK cabling market for that machine has reached £60 million.

The company has acquired distribution rights for a range of cable and communications products. These are based on unshielded twisted-pair (telephone) cable. This type of cable offers a number of advantages over conventional types. In the past, some mid-range IBM and

Wang systems have been cabled using coaxial or twinaxial cabling which can cause problems when adding new terminals or running cable through hostile environments (using armoured cables). Such problems include cost and installation difficulties.

MBA claims that twisted-pair cables negotiate corners more easily and do not need recabling for different manufacturers' hardware. Terminals can be connected to sockets, similar to telephone points, and once the cabling system has been installed, it can be used regardless of changes to the computer system. An office cabled for an IBM system can be reconfigured for another manufacturer's system in hours.

Initial cabling offerings reflect the strength of the parent company, MBA, in the mid-range

IBM leasing market. The company is City of London based, an area which is considered to have the highest concentration of IBM mid-range systems in the world.

Sales will be direct to cabling companies and MBA Cables is forecasting a first year turnover of £1 million. Two dealers were already appointed in March, out of a planned 50 dealers over the next two years.

More Cables

BICC is expected to almost double the size of its US operations through a proposed acquisition of Brintec, a USA cable manufacturer. The offer values Brintec at \$177 million and although the company has experienced declining profits in the last two years, first quarter performance looked much more promising and could herald a revival. ■

Snippets

- IBM France has signed a joint maintenance contract with Telic Alcatel. This agreement allows the two companies to offer combined support services to common sites. The agreement extends to IBM 9370, AS400 and System/3X and Telic 2600, Opus 300 and Opus 4000 telephone systems.
 - Tulip Computers has signed an agreement with Sorbus. Sorbus will provide on-site maintenance for all systems sold within the UK under a six month warranty programme, with a user option to extend the contract to two years. This agreement is similar to one signed previously in France.
 - In a recent reorganisation, Granada has reduced the number of UK board members by four and also the support staff by 20. These moves are said to form a part of a rationalisation programme.
 - In the USA, IBM is allowing authorised dealers to market its maintenance and technical support services to PC customers. Under the terms of the Entry Systems Service Amendment, dealers can combine IBM service with their own maintenance and technical support offerings to customers. This is part of a plan by IBM to enhance the services to dealers and turn them into "mini franchises."
 - Xerox has taken over Dell service contracts that were previously held by BULL HN. Dell is now offering a five-year Xerox service option with all PCs. First year service costs are "bundled" in the price of the PC with subsequent years being charged separately. The Xerox service extends the original Bull offering to include on-site installation for DOS and UNIX sites. Xerox has 1400 engineers that are dedicated to Dell activities.
 - A shareholder rights plan to protect shareholders from a takeover bid or a single company gaining a 20% holding has been announced by Sun Microsystems.
 - Hewlett Packard has appointed David Perozek to take charge of the newly acquired Apollo. He replaces Apollo's CEO Thomas Vanderslice who is leaving the company. Apollo will become an HP division within the workstation group. Mr. Vanderslice is expected to receive multimillion dollar compensation and will continue to offer consultancy services to his former company.
 - Digital has announced a pay freeze for all 73,000 US employees. The freeze will start at the beginning of the new fiscal year on 2 July and will be reviewed in September. This move is in response to a softening of the US market and low profitability in the US.
 - A recent report from the Inter-regional European Consumer Institute included a look at "value for money" in personal and semi-professional computers, for 21 models in four countries. Spain was reported to offer the lowest value for the money, the computers are 52% more expensive and offer less quality for the price compared to the rest of Europe. The best prices were found in West Germany.
- One reason given for the situation in Spain was the need for all computer technology to be imported, therefore pushing up prices. Prices in Spain have, however, shown large reductions since 1987. ■

News from the U.S.A.

Hewlett-Packard Opens New HQ for Worldwide Customer Support Operations

In April this year, Hewlett-Packard opened a new headquarters facility for its Worldwide Customer Support Operations near San Francisco. This new facility is linked with 32 response centres and will manage the activities of close to 400 support offices worldwide.

Housed within the 450,000 square foot (approximately 45,000 square meters) facility are:

- HP Response Centre
- Customer Education
- Multivendor Support Division
- Application Support Division
- Four Support R&D Activities

The vice-president and general manager of Worldwide Customer Support, Mike Leavell, conjectured that Hewlett-Packard is the first organisation to pursue the strategy of integrating service operations through a unified worldwide organisation. Five elements of support have been unified and integrated.

- Hardware Maintenance
- Software Support
- Customer Education
- Network Support
- Professional Services

The support centre's activities are linked with those of 32 response centres worldwide, allowing Hewlett-Packard to offer 24-hour access to response centre support worldwide.

Response Centre, that provides problem resolutions for applications software, plus complete software and network diagnosis.

Multivendor Support Operations are headed by David Carver and provide TPM service for multivendor installations. Through this Multivendor Support Operation Hewlett-Packard

“ 24 hour worldwide access to response centres ”

Twenty-four hour access is achieved by routing “out of hours” problem calls to response centres in other time zones that are operating within their normal working hours (support and electronic data base documentation are provided in English). The facility boasts some 1,100 professional staff who provide support and educational services to Hewlett-Packard customers.

Housed within the new facility is the Hewlett-Packard

hopes to extend services beyond the “second and-a-half” party maintenance level of support currently being offered by Digital and IBM by actively marketing its TPM services. Hewlett-Packard is currently only bidding for large contracts.

The Application Support Division provides support for Hewlett-Packard application software products. Included in the services provided by this division are contractual software support, customer education, performance tools, implementation assistance, and consulting. The Product Support Division is responsible for Hewlett-Packard's products, systems and network-maintenance programmes.

The Systems Support Laboratory performs research and development related to customer sup-

“ Commitment to support excellence ”

Exhibit B

HP WORLDWIDE CUSTOMER SUPPORT OPERATIONS

A Commitment to Support Excellence



port. The laboratory develops management information systems (dispatching, tracking contracts, quoting and ordering) to support Hewlett-Packard field personnel. The Application Support Division, Product Support Division and Response Centre Operations also maintain R & D development laboratories for on-going enhancement of support products and service delivery methods.

Exhibit B illustrates Hewlett-Packard's Worldwide Customer Support Operations organisational structure.

In conjunction with opening of the Worldwide Customer Support Operations headquarters, Hewlett-Packard also announced a new customer support programme. This new programme expands response centre coverage hours, offers a new electronic database and revises Hewlett-Packard's tri-level software support services.

Announcement of the new programme within Europe is likely to follow that in the U.S.A. INPUT plans to profile the European announcement in the next issue of *Service Update*.



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Telub—The Largest Independent Maintenance Company in Scandinavia

Background

Telub Service AB is one of the five largest independent maintenance companies in Europe, and is the largest in the Nordic countries by a comfortable margin.

Telub Service employs 350 staff, has 32 field service offices in the

Nordic countries, and a further 6 offices in Germany. President Göran Stenudd was able to report 1988 revenues up by about 27%, to \$25 million. Sweden is the largest operation, with 195 employees.

Major clients include Ericsson, Volvo, SAS and Norsk Hydro.

Telub Group

Telub Service is a division of Telub Group, which is one of the largest consulting and technology-based companies in the Nordic region, offering services and systems in the data processing, communications and electronics markets. Telub Group employs 2000 people,

Continued on next page

Telub...from page 1

and in 1988 had a turnover of \$180 million up around 25% from 1987. Exhibit A outlines the Telub Group's structure.

Technical Service accounts for around 40% of Telub's revenue (see Exhibit B) providing installation, maintenance, components and consultancy related to telecommunications and radar systems. Technical Documentation supplies technical information to the Swedish Defence Forces and the defence industry, although the electronics, computer and automotive industries also provide significant revenue.

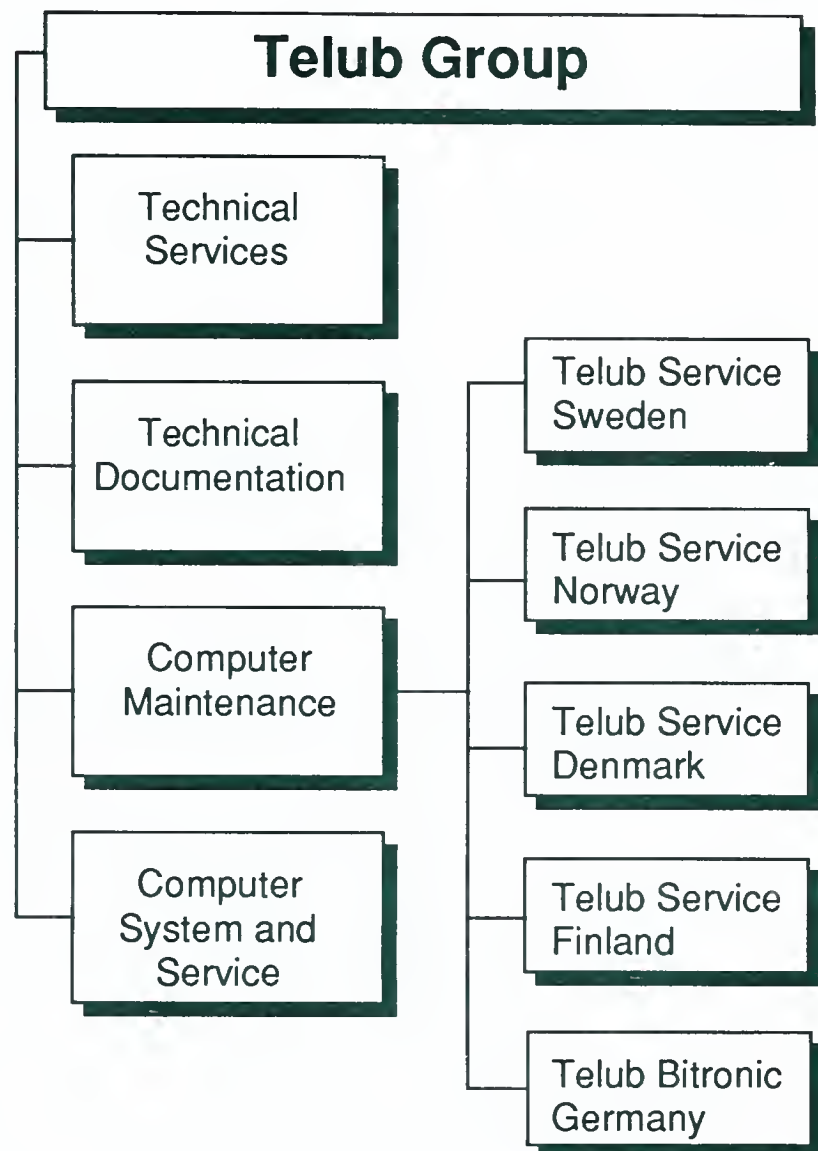
Computer Maintenance (Telub Service AB plus subsidiaries) accounts for around 15% of Telub Group revenue. This business comprises field servicing and workshop repairs on PCs, workstations and minicomputers. Telub Service also maintains terminals, printers and telecommunications equipment.

Telub Group claims its Computer Services and Systems division is one of the largest computer service companies in Sweden. This division supplies IBM, Apple and Compaq computer equipment as well as consultancy and services. It is Telub Group's second-largest division, accounting for 27% of Group revenue.

FFV Group

The Telub Group is itself a subsidiary of the Swedish state-controlled FFV Group. FFV's

Exhibit A



1988 revenues were \$920 million, representing a growth rate of around 20% over 1987. 1988 saw profit before extraordinary items grow 76% to \$44 million.

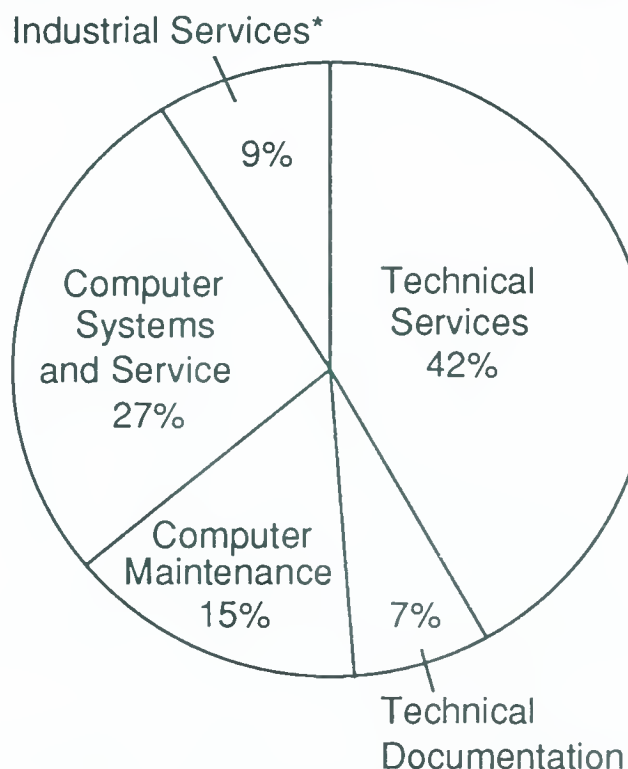
FFV divides its business into five groups, one of which is the Telub Group. The structure of the parent company FFV is outlined in Exhibit C.

Exhibit D breaks down FFV Group revenue by Business Group.

The Ordnance Business Group manufactures and markets military equipment, primarily infantry and underwater weapons. As a supplier of products to the defence forces of Sweden and other countries, the FFV Group claims that Ordnance is subjected to cycles resulting largely from political decisions and is insensitive to fluctuations in the overall business environment. Limitations on the export of Swedish defence products,

Exhibit B

Telub Group Revenue—163 Million Distribution by Business Sector—1988



* Now part of the Development Group
Currency conversion by INPUT
(\$1 = SK 6.55)

combined with the limited budgets of key foreign customers, make orders from the Swedish Defense Forces of crucial importance.

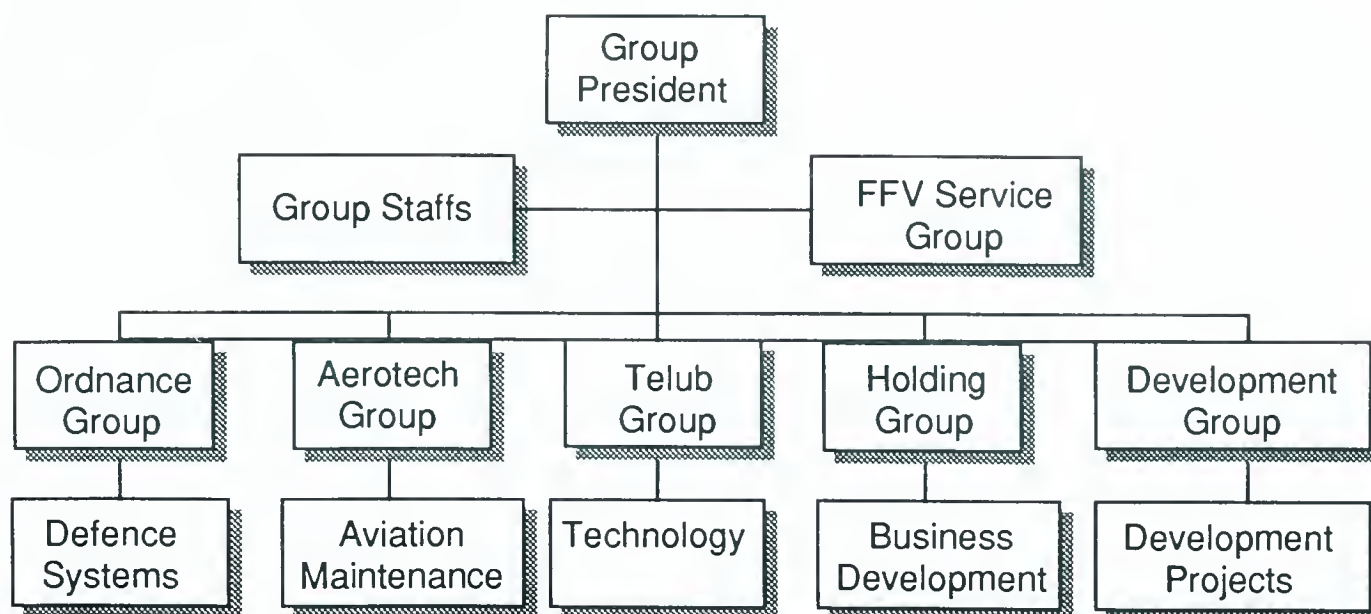
Aerotech Group provides aviation maintenance in Europe, the U.S. and the Far East. Both Aerotech and Telub are less dependent on defence expenditure, and as maintainers and equipment modifiers may indeed benefit from the need to extend the life of existing equipment. Defence orders account for around 40% of Telub Group's total sales. This proportion is expected to decline as Telub continues to develop its commercial business. Both groups are focusing their businesses along commercial, and increasingly, international lines.

The Holding Group manages those companies that are not part of FFV's core businesses, such as vehicle services equipment and measurement technology suppliers. The Development Group comprises those companies able to provide necessary technology to FFV, or which assist the Group's continued internationalisation. It includes companies specialising in advanced material and chemical technologies and logistics consultancy.

Continued on next page

Exhibit C

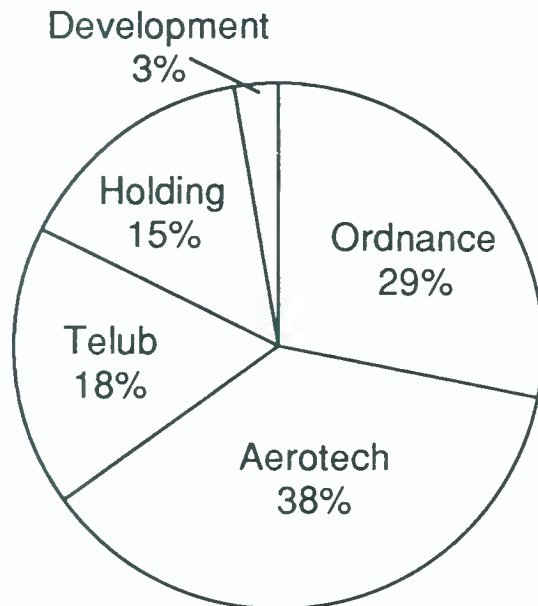
FFV Group



Telub...from page 3

Exhibit D

FFV Group Revenue—\$920 Million Distribution by Business Group—1988



Notes: Percentages have been rounded.

Currency conversion by INPUT

(\$1 = SK 6.55)

Exhibit E illustrates the profit contribution of each Business Group to the parent group, FFV. Ordnance (\$26M), Aerotech (\$16.2M) and Telub (\$7.9M) all contributed significantly, whilst the Holding and Development Groups returned an overall loss. Both the latter groups concentrate on newly-established companies and business partners, which accounts for their low profitability.

Exhibit F compares the revenue growth of FFV and Telub Group from 1984 to 1988. FFV achieved a compound annual growth rate (CAGR) of 19%, whilst Telub Group revenues grew at the faster rate of 26%. Telub Group has consequently increased its share of FFV's total revenue from 14% in 1984 to 18% in 1988.

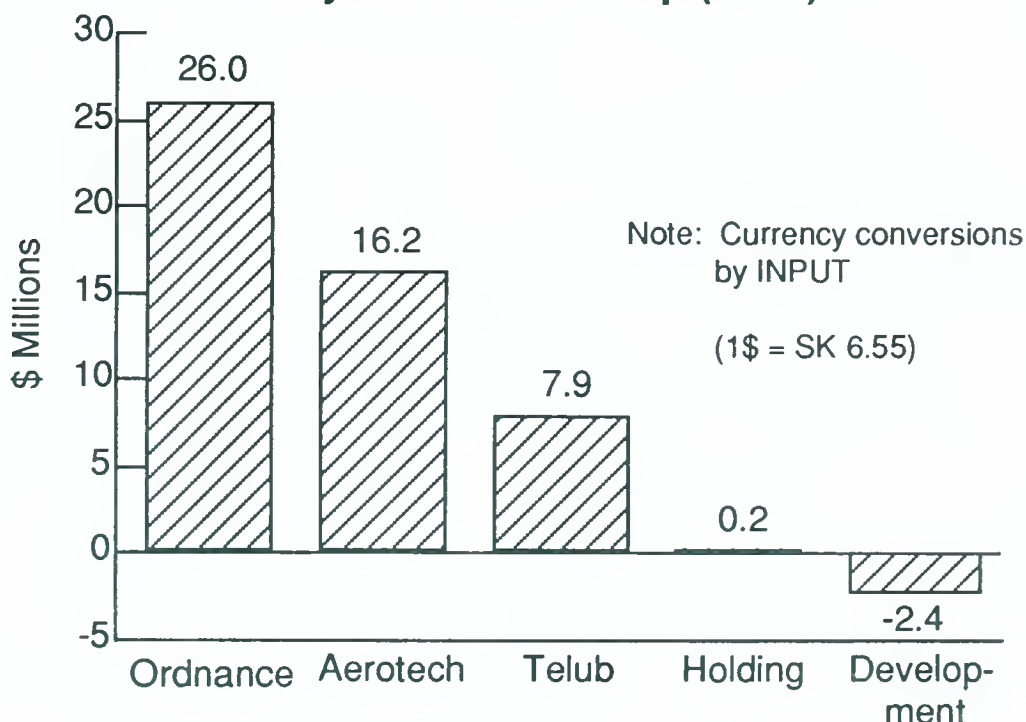
Maintenance Operations

Established as a business division of Telub Group in 1971, Telub Service was made an independent company in 1987.

Telub Service's operations are illustrated in Exhibit G, and are shown segmented by country.

Exhibit E

FFV Distribution of Profit before Extraordinary Items by Business Group (1988)



In 1988, Telub Service's revenue grew by around 25%. Acquisitions in Sweden included the service operations of MAI Information Systems AB and Recognition Equipment AB. The acquisition of MBF Norge A/S (December 1988) is expected to increase revenues from Norwegian operations by as much as 60% in 1989.

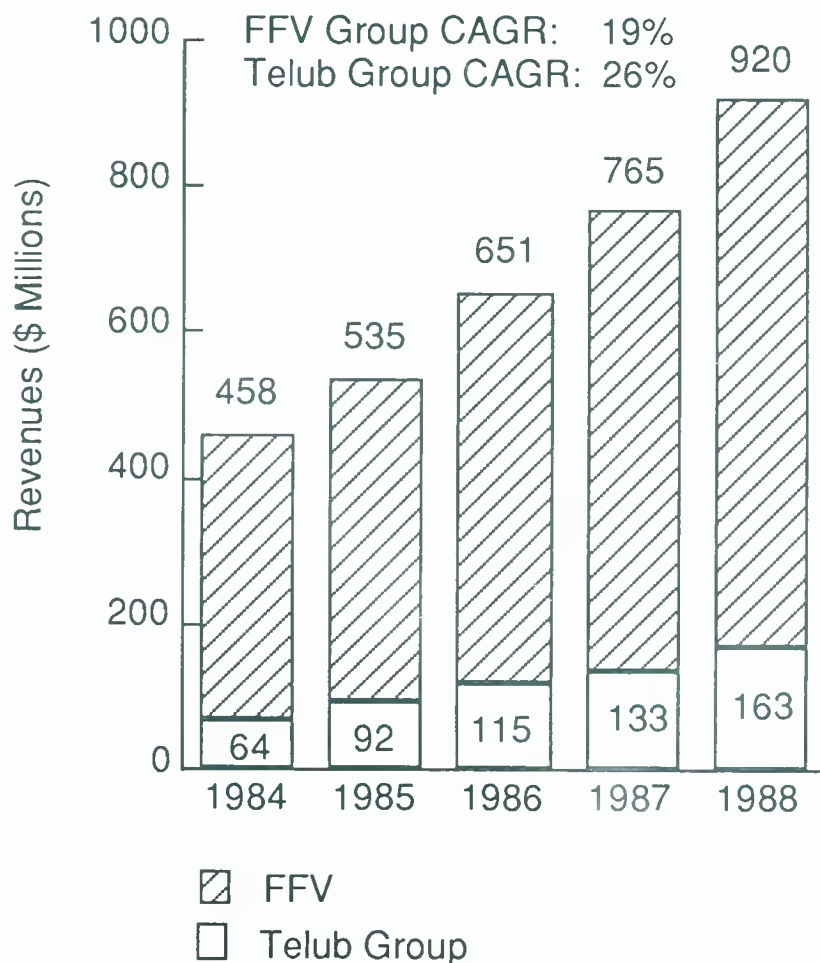
Finland saw the opening of two new service offices, and Telub also reports good growth from its West German subsidiary, Telub Bitronic (acquired 2 years ago). Telub claims its Denmark operations were able to penetrate the minicomputer market.

Range of Services

Telub Service concentrates its service activities on IBM System

Exhibit F

FFV and Telub Group Comparative Revenue Growth 1984-1988



Note: Currency conversion by INPUT
(\$1 = SK 6.55)

- a skilled staff of field service engineers with the technical and maintenance capability to work on their own initiative
- a powerful service concept comprising service agreements, repair services, system expansion with new and used equipment, and sales of accessories
- a highly developed network of equipment suppliers, spare parts and new releases of hardware and software
- a well-developed planning and support organisation
- two high-capacity Repair Centres in Vaxjo, Sweden and Frankfurt, West Germany

Fourth-Party Maintenance (FPM)

Telub Service is one of the leading FPM companies in Europe. In the Nordic countries, roughly 15% of Telub Service's revenue comes from its rapidly growing FPM operations. In West Germany, the proportion is much higher—around 65-70%.

Three-quarters of the repair flow through the high-capacity Repair Centres stems from fourth-party business. Much of this comes from computer manufacturers such as Honeywell, Siemens, Sharp, ITT and Victor. In addition, the Repair Centres are finding that a small but increasing proportion of work is coming from end users,

3X, Digital PDP-11 and VAX, Digital Microvax and MAI systems. It also services a wide range of workstations, peripherals and PCs.

Telub also supplies both new and used computer systems, mainly IBM and Digital mini-computers, and a range of accessories for computers and PCs.

Competitive Advantages

Telub Service claims to have a number of advantages to offer its partners and clients, as highlighted in Exhibit H:

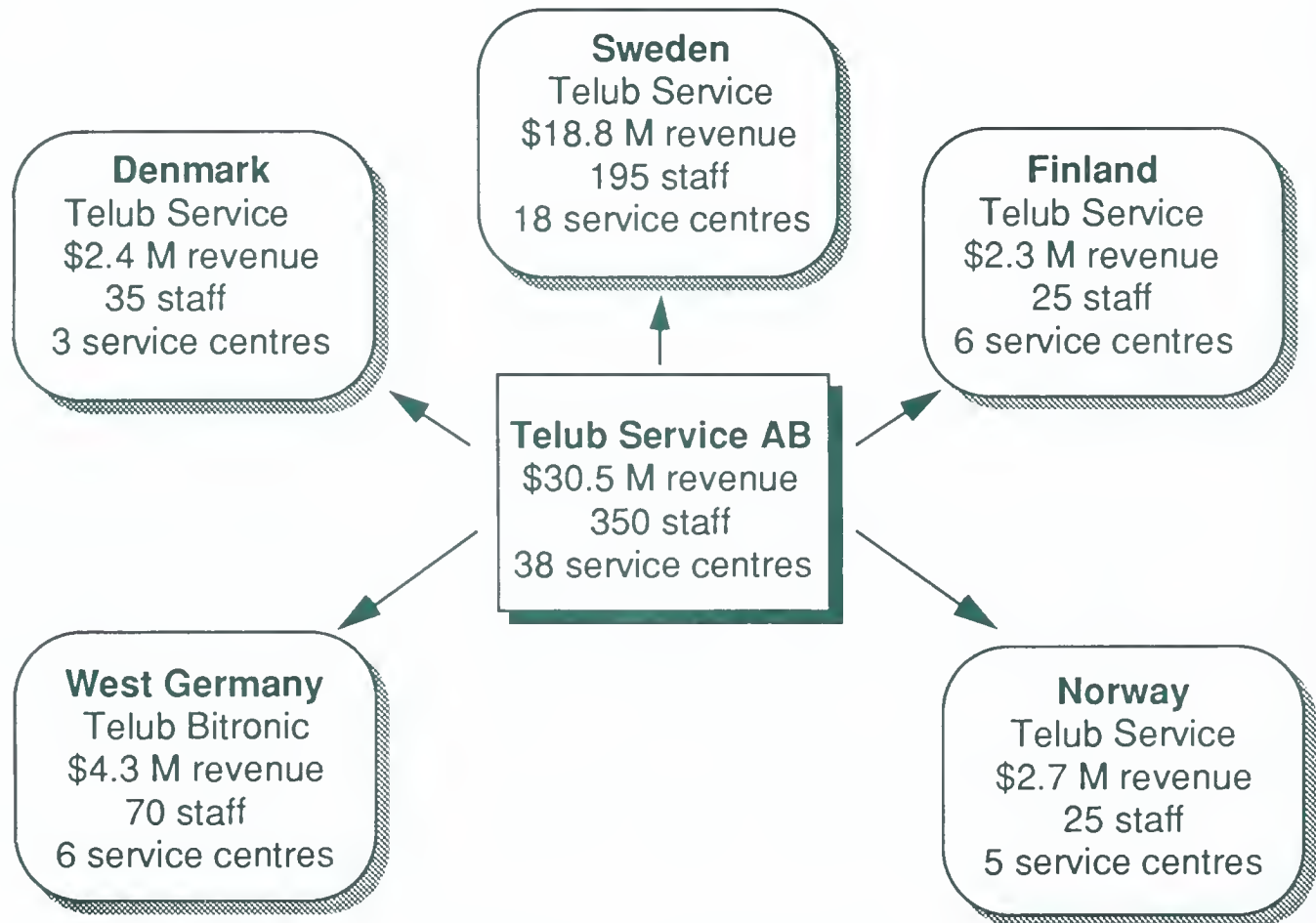
- a high degree of decentralisation that allows the provision of blanket service agreements to clients whilst enabling individual units to tailor services to meet local needs

Continued on next page

Telub...from page 5

Exhibit G

Telub Service AB Operations (1989 Forecast)



Note: currency conversion by INPUT
(1\$ = SK 6.55)

Exhibit H

Strengths of Telub Service

- Decentralised structure
- Skilled engineers
- Service concept
- Established supply network
- Planning and support
- High-capacity Repair Centres

who approach them directly as PC repair facilities. Both centres market their FPM capability throughout Europe. The Repair Centres dedicate around 30 engineers to fourth-party repair work in Sweden and 50 engineers in West Germany.

The Centres repair a variety of faulty units and sub-assemblies such as PCBs, power supply units, disk drives (though not Winchester), printer parts, mechanical subassemblies and terminals (including keyboards).

Normal turnaround is 1-10 working days, excluding transport. Repair prices are fixed and are usually between 10% and 30% of the cost of a new unit. Repair work is guaranteed for 90 days.

Recent Developments

Telub Service has identified a market trend towards decentralised computer systems comprising large numbers of PCs and workstations. In addition, it sees users purchasing equipment from several manufacturers, with the result that sites are becoming increasingly multivendor, in terms of the installed equipment base. Telub believes that computer service companies able to service a variety of equipment have an advantage. Similarly, Telub Service has noted increased interest on the part of leading suppliers in the service of products from other manufacturers.

1988 also saw the coordination of marketing activities at the two Repair Centres. The ultimate objective is to secure the company's position as one of Europe's leading providers of repair services for manufacturers and service organisations.

Competitors

Third-party business competition in the Nordic countries is claimed to come from Ericsson 3C, Granada and Databolin. In West Germany, Sorbus and local service companies are Telub Service's main competitors.

Future Plans

Whilst it is accepted that consolidation of current services is required, Telub Service has identified development and growth opportunities in the following areas:

- Network services
- Communications
- UNIX systems

UNIX systems and PC networks are already being serviced by Telub, and it is planning to expand these services.

Telub Service monitors product developments closely, and

tailors its service offerings accordingly. Suppliers of new products, especially printers and other peripherals, provide Telub Service with continuous opportunities for business expansion and growth. Telub Service regards such suppliers as potential business partners. ■

Disaster Recovery Gathers Further Momentum

The earthquake which caused such devastation when it hit the San Francisco area of Northern California in October 1989 has also been responsible for an increase in interest in computer disaster recovery services. Ten key computer companies are located within the area affected by the earthquake, including Amdahl, Hewlett-Packard, Unisys, and IBM Storage Products. The operations of many of these companies were disrupted, but fortunately less than was originally feared.

Companies offering disaster recovery services did, however, see a sharp rise in share prices based on a market belief that the disaster recovery business would be given a boost by companies rushing to sign up. A number of emergencies were reported by the disaster recovery companies. Comdisco is believed to have had seven declared emergencies, SunGard four (with more expected) and El Camino one.

As a further indication of increasing interest in disaster

recovery in the U.S., unconnected with recent events, Comdisco has reported year-end net profits up 535%, which represents a profit of \$108 million on a turnover of \$1.68 billion, up 28% on the previous year.

Whether recent events will stimulate Western European interest in disaster recovery is debatable. Europe does not tend to suffer from large-scale disasters or the extremes of climate that may cause problems. Nevertheless, interest in disaster recovery in Europe is gaining momentum in companies that can provide such services.

- ICL has revealed a plan to become a significant provider of disaster recovery services. ICL plans are likely to be announced in detail in December 1989. The service will be provided by existing customer service organisations offering full disaster recovery services, and will include consultancy and contingency planning

Continued on next page

Disaster...from page 7

- IBM intends to start a disaster recovery service for AS/400 users in the U.K. in January 1990. Services for the B40, B50, B60 and B70 models will range from £13,500 to £15,500 per year.
- Unisys has formed a partnership/joint venture to offer disaster recovery services in France. The venture will form European Assurance In-

formatique SA, and is a result of Unisys joining with CdFi SA (a computer services company) and La Mondiale SA (an insurance company). Through the operations of a disaster recovery centre located in Lyon, the new company will also provide remote diagnostics and insurance against loss of data.

- Following agreement with Ageris SA in France and Istel Failsafe in the U.K., the U.S. company Comdisco is aiming

at a pan-European disaster recovery operation. The plans include linking four major European cities, Frankfurt, Paris, London and Manchester, in a network of disaster recovery centres.

Comdisco forecasts that the sites based in the U.K. and France will generate approximately \$20 million revenue in 1990. Future plans also include joint ventures in East Asia and a gateway to the U.S. centres. ■

Further Acquisition Activity from Thomainfor

The August 1989 issue of Service Update profiled the operations of Thomainfor, a wholly-owned subsidiary of Thompson CSF, following its acquisition of Control Data's European third-party maintenance business. Subsequently, Thomainfor has made further acquisitions.

- In early November 1989, Thomainfor acquired two

Austrian third-party maintenance companies, APH-Serv and Datacom.

- In October 1989, Thomainfor acquired two European subsidiaries of MAI Basic Four, Tekserv France and Tekserv Belgium.

In a previous interview with INPUT, Thomainfor identified a strategy to develop critical mass

in the countries where it had business operations. These acquisitions add strength to the development of Thomainfor and most likely will result in the company becoming the second-largest third-party maintenance company in Western Europe, following Granada. ■

ICL Training Development Centre

ICL's recently announced UNIX Training Development Centre at Leopardstown, near Dublin, is the first phase of a pan-European strategy. INPUT spoke to ICL to glean more information.

ICL expect that by 1992, the centre will have raised European UNIX training revenues to

more than £7 million. The initial investment in buildings and infrastructure exceeds £1 million, and ICL claims that more than £500,000 will be invested in course development over the next three years.

The centre currently employs 25 staff. ICL expects that by 1992

over 100 staff will be engaged in UNIX course and applications development.

ICL believes the benefits of its location in Ireland to be three-fold:

- Ireland has an abundance of graduates with relevant

degrees in computer science (around a third of the students in the Republic of Ireland graduate in computer science or related courses).

- The centre will be located directly below ICL's existing UNIX applications development centre, providing access to additional skills when required.
- The Dublin area is well served by a number of companies offering rapid and high-quality documentation and software interface translation services. Course-ware and other products can be distributed throughout Europe with minimum delay.

ICL stresses that the centre will treat UNIX as a generic product, and will not produce proprietary courses. Such an approach is made necessary by the proliferation of multivendor sites and the need for systems integration capability. ICL hopes to help bridge internal and external skills gaps caused by the rapid take-up of UNIX systems, whilst providing genuine career paths for graduates.

If the Leopardstown centre is a success, additional centre(s) can be expected within the next two years. INPUT believes that ICL's presence in France, combined with the size and maturity of the French network market (ref. INPUT, *Network Services, Western European Market Opportunities 1988-1993*) make that country a probable location for the development of network training courses. ■

Snippets

❖ The UCL Group, a computer maintenance and systems house, has been acquired by the Ferrari Group in the U.K. for £4.1 million (\$6.7 million). Following the merging of the maintenance operations of UCL with those of Ferrari, Ferrari claims that it will be the fifth-largest maintenance operation in the U.K.

❖ Granada Computer Services Ltd.'s subsidiary, The Computer Exchange, has expanded its portfolio of services in the U.K. Through the medium of the Telecom Gold network, the company now offers a wide range of services to the IBM market. Examples of these are monthly articles on IBM product ranges, pricing policies, and residual values for a variety of IBM systems, and a leasing model which provides users with a method of interrogating quotations. Subscription charges are £100 per year.

❖ Digital has announced the opening of a customer training facility in Scotland, the first in that part of the U.K. The objective of the new training centre, which is being run by the Strathclyde Institute, is to help bridge the computer skills gap which exists in Scotland.

❖ Bull SA of France is to purchase Zenith Data Systems, the PC manufacturer based in the U.S. The purchase, at around \$600 million, demonstrates the commitment of

Bull to a long-term strategy involving PCs.

❖ Apricot Computers is to acquire Information Technology Ltd (ITL), a long-established U.K. computer manufacturer, for £12.7 million (\$21 million). The strengths of ITL are in computer software and services, particularly data networking software for healthcare administration and computer maintenance. It is believed that merging and rationalising the organisation of ITL with Apricot may result in some job losses at ITL.

❖ Following a recent Rights Issue, the U.K. company Ferrari Holdings PLC is likely to end up with a significant shareholding by Singer and Friedlander; a 37% stake is anticipated. The purpose of the Rights Issue was to raise cash, £4.5 million (\$7.4 million), to assist Ferrari in boosting the operations of the recently acquired UCL.

❖ Third-party maintenance has been given a boost in the U.K. The Central Computer and Telecommunications Agency (CCTA), a government advisory body, has issued a policy document on the maintenance of computer equipment. The policy statement, which highlights the benefits of single-source maintenance, recommends that government departments consider competition for maintenance whenever such opportunities arise, and

Continued on next page

offers a number of CCTA-approved suppliers. Individual government departments will be expected to ensure that bidders for contracts can meet the department's needs. Although the CCTA can only recommend, not enforce, third-party maintenance companies in the U.K. will likely welcome this opportunity.

- ❖ In recognition of the need to preempt, if possible, a potential skills shortage, the National Computing Centre (NCC) in the U.K. has launched a working party to study the problems of skill shortages in the IT industry. The working party will be chaired by Fraser Mitchell, the NCC deputy chairman.
- ❖ British Olivetti Customer Support Group has released some details of its three-year support contract with Barclays Bank. Olivetti is to provide installation and maintenance of 22,000 ATM terminals by providing a team of 40 staff to work with Barclays own personnel. The contract is valued at £3.3 million (\$5.4 million) and will be serviced from two dedicated centres, one in Manchester and the other just north of London. Olivetti's customer support group is forecasting a revenue of £47 million (\$77 million) in 1989, representing a compound annual growth rate (CAGR) of almost 40% over the last two years. Other Olivetti customers include several building societies, Marks & Spencer, and the National Westminster Bank.

- ❖ IBM has been asked by health districts in the U.K.'s West Midlands to develop IT training for 70,000 staff. The training, which will be mainly computer-based, will be developed in conjunction with districts and the first phase will be the setting up of three pilot sites.

- ❖ Ian Vallance, the chairman of British Telecom, has announced that BT is aiming to achieve a completely new business culture. The culture is that of Total Quality, focusing on customer needs and being right the first time, every time. BT has suffered repeated criticism of the quality of its service. The programme of training will

involve 220,000 BT employees.

- ❖ Logitek has acquired Microtex, the Altos distribution operation of MBS. This acquisition, costing around £1 million (\$1.6 million), will result in Logitek becoming the largest Altos distributor in Europe; it will also expand its base of maintenance customers.

- ❖ A new company, DCM Services Ltd, has been created as a result of a management buy-in of the U.K. Maintenance and Retail division of Dataserv. The new company will operate from existing offices at Welwyn Garden City. ■

News from the USA

Intellogic Trace and Sorbus Introduce Disaster Recovery Services

Both Intellogic Trace and Sorbus have recently thrown their third-party maintenance hats into the disaster recovery services ring.

Sorbus has formed a partnership with noted disaster recovery specialist SunGard Recovery Services to deliver hot-site services for IBM 4300 users, and cold-site availability for the IBM and DEC midrange customers. Up to now, SunGard has proven its expertise in the IBM 3090 and 3080 arena, but, prior to this partnership, had not penetrated the 4300 market. This alliance matches up SunGard's disaster recovery expertise with Sorbus' strong marketing presence in the IBM midrange arena, which

includes a large installed base of IBM 4300, IBM System/3X and DEC system users. Under the new agreement, Sorbus will market disaster recovery services provided by SunGard.

The team will deliver hot-site services, providing customers with access to fully configured, fully operational systems, from SunGard's three "mega-centres", located in Philadelphia (PA), Chicago (IL) and San Diego (CA). In addition, customers can set up operations in cold sites located in Chicago, Philadelphia, San Leandro (CA), St Louis (MO), Fort Worth (TX), San Diego, and Minneapolis (MN). These cold sites are equipped with raised floors,

HVAC and electrical wiring, Halon fire protection and security systems. Plans to offer "warm-site" services, with Sorbus assuming the responsibility for locating and installing replacement systems at the cold-site facilities, are still under development. Hot-site and cold-site services were made available in September.

Intellogic Trace launched its own disaster recovery offerings for System 3X and AS/400 customers earlier, in June. IT will be providing hot-site coverage from ten locations within the U.S., with Systems 34 and 36 installations backed up by hot-site locations in Denver, Chicago, Washington, Detroit, Los Angeles, Houston, New York City, San Francisco, San Antonio and Atlanta. System 38 and AS/400 hot-site support is currently provided out of San Antonio, but IT hopes to be able to provide backup for all systems from all ten locations by next year.

Intellogic Trace's Disaster Assistance Programme gives the customer two options: the customer can access a designated hot site through a remote hook-up, or the customer can elect to install a loaner system (loaners are provided at no additional charge) at a location prepared by the customer. For each account, IT will assign a disaster assistance team, which will be responsible for supervising activities at the hot site and coordinating the installation of loaner systems and remote hook-ups. IT will also provide hot-site testing free of charge for two days each year, allowing customers to test, modify and

Exhibit I

Intellogic Trace Disaster Assistance Programme Price Schedule

Model	List	Maintenance Customer Price
System 34	\$50.00	\$37.00
System 36	\$50.00-120.00	\$37.00-90.00
System 38	\$175.00-400.00	\$131.00-300.00
AS/400	\$150.00-600.00	\$112.00-450.00

improve their contingency plans. The Disaster Assistance Programme does not yet include contingency planning services, but Intellogic Trace is seeking to partner with vendors to provide such services.

Monthly fees for IT's disaster recovery services range from

\$50 to \$600, depending on the type of equipment needed. Customers who purchase maintenance services or lease equipment from IT receive a 25% discount. Three- and five-year discounts are also available, accruing an additional 25% discount. See Exhibit I for the price schedule. ■

News from the USA

Sorbus to Provide Enhanced Support for IBM System/3X Customers

Strengthening its service portfolio for IBM System/3X customers, Sorbus has announced the 3Xtra Support Programme, a four-point service package featuring hotline support, enhanced on-site customer support, cold-site disaster recovery services and a nationwide site relocation and installation service.

The 3Xtra Support Programme marks Sorbus' first foray into systems software support. Primarily a hardware mainte-

nance vendor, Sorbus had been announcing its intention to provide software support for some time, and finally delivered with a package that offers toll-free hotline support, configuration assistance, performance consulting, and internal networking recommendations, as well as personal computer expertise. Sorbus will also provide system release coordination for engineering change orders (ECOs), programme temporary fixes (PTFs) and

Continued on next page

Sorbus...from page 11

programme change orders (PCOs).

Disaster recovery services, offering cold-site availability, are also available at no additional charge. Site relocation and installation services, complete with planning, coordination, de/reinstallation, cabling, moving, and testing and sup-

port, are available for System/3X customers for a fee. Site relocation services are priced per project, while de/reinstallation and testing are charged on a time-and-materials basis.

Sorbus plans to extend this service to the IBM AS/400 platform by year's end. The 3Xtra Support Programme will be phased in over the third and fourth quarters. ■

"This acquisition would provide us with additional expertise in the increasingly sophisticated workstation and high-end mainframe technologies. Equally important, it would provide an enhanced critical mass of resources in key geographic areas to meet the growing market trend towards distributed systems and cooperative processing."

Lawrence Perlman, Control Data's President and Chief Operating Officer, said:

"Control Data's third-party maintenance business is an excellent business that has consistently contributed to the company. However, the business does not fit into Control Data's strategy to be a data solutions company. In addition, since the third-party maintenance market is intensely competitive and is going through consolidation at present, we have determined that a sale to Bell Atlantic would be in the interests of all parties. The business, when integrated, will move forward with combined strengths and even greater success."

The business operations that are being acquired by Sorbus include computer maintenance services for products of leading manufacturers, primarily those of IBM and Digital. Control Data will retain maintenance control of its CYBER product line and will continue to provide those maintenance services.

Sorbus claims to be the world leader in independent computer maintenance with operations in North America and Western Europe, and 250 offices worldwide servicing more than 80,000 customer sites. ■

News from the USA

Data General Offers Multivendor Support Through Compatible Products Programme

Data General has made support for third-party equipment official with the announcement of the Compatible Products Programme (CPP), which offers single-source support for third-party products linked with DG machines.

The new programme offers support for over 100 non-DG

products, including Fujitsu, Printronix, CDC, Hewlett-Packard, Epson, Okidata and Texas Instruments, as well as microcomputers integrated with DG systems. DG will also accommodate customers with equipment not currently on the vendors' Compatible Products Support list. ■

News from the USA

Control Data to Sell U.S. Third-Party Maintenance Business to Bell Atlantic

Following the sale of its European third-party maintenance business to Thomainfor in June 1989, Control Data announced on 25 October 1989, that Bell Atlantic Customer Services had signed a definitive agreement to purchase its U.S. third-party computer maintenance business. The terms of the sale have not been disclosed.

In the announcement, it was stated that would be included in

the purchase. Control Data's customer base and nationwide maintenance facilities. These would be merged with Sorbus, a Bell Atlantic Customer Services subsidiary.

Commenting on the purchase, Thomas Vassiliades, the President of Bell Atlantic Customer Services and Chairman of Sorbus, said:

News from the USA

Supporting VARs: Cultivating Good Relations with Strategic Alternate Distribution Channels

Introduction

The downward migration of processing technology from huge mainframes to small systems has pushed value-added resellers to the forefront as key players in the marketing strategies of information systems vendors. Lower prices and tighter profit margins on small systems have made a direct sales force approach for the small business user segment less cost-effective. More and more vendors are looking on value-added resellers as extensions of their direct sales forces, not only for moving hardware products but for selling the support services that go with them. In recognition of these resellers' need for good vendor support as well as proper incentives for VARs to push a vendor's service contracts, a number of vendors are developing or have developed VAR support and incen-

tive programmes to achieve greater market penetration through alternate distribution channels.

This article discusses the objectives and features of VAR support and incentive programmes and looks at three vendors, DEC, IBM and Compaq, all of which have developed different approaches to VAR support.

Objectives of VAR Support

The principal objective behind VAR support and incentive programmes is to encourage VARs to market the vendor's products and services. This objective is simple enough to state, but the methods to achieve it consist of a tangle of choices that could either turn the partnership into a "win-win" situation for both vendor and VAR, or dissolve it into a tense relationship ham-

pered by numerous conflicts.

The vendor's primary objective is to maximise returns by distributing through a wider network of resellers, thereby broadening the potential customer base, without incur-

ring the costs of using a direct sales force. The reseller's similar goals also require the vendor's full backing of its efforts to allow the reseller to deliver the best product and services to its customer, thereby achieving customer satisfaction and repeat business. In some cases, both the vendor and VAR are trying to sell to the same customer. Result: conflict.

Channel conflict could, and should, be reduced through more selective partnering strategies and better channel management, but vendors should not withdraw or degrade support of VARs in order to diminish competition. The resellers constitute a pipeline through which customers receive the vendor's product and services, and a degradation of product and service quality to the end user due to poor VAR support reflects badly on both the vendor and the VAR. Where, then, can the twain meet?

VAR Requirements

In order to provide an adequate level of support to their customers, VARs need defined policies from the manufacturers in four areas: parts distribution, maintenance documentation for both hardware and software, priority access to support centre expertise, and education and training, as highlighted in Exhibit J.

Exhibit J

VAR Support

Vendors should define policy on:

- Parts distribution
- Support centre access
- Access to hardware and software documentation
- Education and training

Continued on next page

Supporting...from page 13

Parts Distribution

A vendor's parts policy should have the following: a provision allowing VARs to resell overstocked parts back to the vendor, another allowing dealers to purchase parts from local service plants, discounted prices for resellers, and an expedited parts delivery process for resellers willing to pay the shipping fees.

Given the short life cycle of technical products, dealers are often reluctant to maintain an

adequate supply of parts for fear that they will be left holding a high inventory of obsolete parts after the next product cycle. Allowing VARs to resell overstocked parts allows dealers to overcome these fears, since selling parts to dealers at a discount allows dealers to make a profit on parts as well as labour. Allowing dealers to purchase parts from local service plants and expediting parts delivery ensures quick turnaround and eases the parts supply flow. Exhibit K provides a look at IBM, Digital and Compaq's competitive stance in the area of parts distribution.

Support Centre Access

An ongoing exchange of technical information is vital to a VAR's ability to successfully represent a manufacturer. The degree of information and methods of providing it, however, vary widely between hardware vendors and their reseller agents. Exhibits L through N give a detailed overview of the types of information support and delivery exchanged between leading vendors and VARs.

Giving dealers priority access to second-level expertise (senior

Exhibit K

VAR Requirements Vendor Comparison—Parts Distribution

Question	Compaq	Digital	IBM
Are dealers allowed to return parts if overstocked?	Yes	N/A	Yes* limited to certain part numbers
What types of parts discount do you provide to authorised dealers? - Flat - Volume	None None	None Yes (not disclosed)	33% None
Are dealers charged extra for fast delivery or parts?	No	Yes	Yes, if not warranty \$25 line item
If yes, does this charge cover the following? - Fast delivery - Same-day shipping	N/A N/A	Yes No	Yes Yes

* Within 6 months, 15% of parts (up to \$1 million) for parts credit. Restocking fee - 20%.

N/A = Not applicable

Exhibit L

VAR Requirements Vendor Comparison—Support Centre Access

Question	Compaq	Digital	IBM**
Is the technical support hotline centrally located or in several locations?	Central	Three locations in U.S.	Central
Are specialists immediately accessible or is the dealer usually called back?	Called back	Called back	Called back
Do the operators log in the calls and provide status reports	Yes	Yes	Yes *
How is the success of the hotline measured?	Response time vs. objectives	Customer satisfaction survey	Response time, close-out time, satisfaction survey
How are the technical representatives trained?	Formal classroom on each product	Formal hardware and software training, programmed instruction	Formal hardware and software training, self study courses

* IBM also has an electronic mail system in conjunction with its database search that allows dealers to log in customers rather than through the response centre operator.

** In 1988, the centre logged in 265,000 calls.

Exhibit M

VAR Requirements Vendor Comparison—Support Centre Access

Question	Compaq	Digital	IBM
Is telephone technical support provided to the following, and is there a separate charge for this support?	Telephone support/charge	Telephone support/charge	Telephone support/charge
- Dealers who do not service	N/A	Yes/No	N/A
- Dealers who service	Yes/No	N/A	Yes/No
- Authorised servicers	Yes/No	N/A	N/A
- End users	No/N/A	Yes/Yes	No/N/A
Is a response time guaranteed for telephone technical support?	No	No	No **
What is the average response time?	3 minutes	Depends on product and contract	Information not available

** Objective is 80% in less than 2 hours: high priority is 100% in 1 hour.

N/A = Not applicable

Exhibit N

Var Requirements Vendor Comparison—Support Centre Access

Question	Compaq	Digital	IBM **
How is the following information provided to dealers?	How * / charge	How * / charge	How * / charge
- Open hardware problems	P ***/No	B/No	B/No
- Open software problems	N/A	B/No	B/No
- Engineering change notices (hardware)	P ***/No	B/No	B/No
- Software temporary fixes	N/A	B/No	B/No
- Software updates	N/A	B/No	B/No

* How: P = Paper
B = Both Paper and Electronic

** IBM has an electronic dealer bulletin board system that allows database search. IBM reports that it has not had to make engineering changes on PCs and do not have many application software products.

*** Technical bulletins, service advisories.

N/A = Not applicable

Supporting...from page 14

technical support staff) allows them to bypass an unnecessary step in the problem call routing process. Support centre staff usually have two levels of expertise: level I staff, which have the task of filtering out user-related errors and simple problems; and level II staff, which tackle the more difficult problems requiring a higher level of expertise. Resellers should, through education and training, be able to handle problems requiring level I expertise. The problems they forward to the vendor's support centre, one can assume, would be those requiring senior-level

expertise. The dealer's direct line to senior technical staff would facilitate quicker turn-around.

If the support centre, working with the reseller, is not able to find a resolution to a problem, the vendor should still follow through, either by dispatching field personnel or, if the platform size allows, replacing the system.

Maintenance Documentation and Training

In order to encourage dealers to shoulder as much of the support

burden as possible, vendors should make available to the resellers the knowledge and training needed to provide support. Hardware and software maintenance documentation should be provided free or sold to VARs. Exhibit O presents the policies of IBM, Digital and Compaq in these areas.

Vendors should also require VARs to train support personnel on the vendors' systems. The vendor can provide these courses either for a fee, or package the education and training component with the system. The latter is preferable, simply because resellers are less likely to balk at sending support

Exhibit O

VAR Requirements Vendor Comparison—Documentation and Training

Question	Compaq	Digital	IBM
Item required to certify others to service products	Required/ separate charge	Required/ separate charge	Required/ separate charge
Hardware training	Yes/No	N/A	Yes/No (number limited)
Software training	N/A	N/A	Yes/No
Hardware documentation	Yes/No	Yes/No	Yes/No
Software documentation	N/A	N/A	Yes/No

N/A = Not applicable

personnel in for training if there are no direct fees involved. The vendor can recover its education and training costs through higher product prices or through special contract arrangements.

VAR Incentives

With vendors now using alternate distribution channels to sell maintenance contracts, the issue of VAR compensation for service contract sales comes up. Exhibit P illustrates the two approaches to compensating VARs.

Under Method A, the vendor pays the reseller a straight com-

mission on contract sales. The vendor is responsible for providing maintenance services and administering the account. The reseller takes no part in service delivery or administration.

Under Method B, the vendor sells the service contract to the reseller, who in turn resells the contract with or without a profit margin. The reseller may package the vendor's service with its own, and is responsible for screening problem calls and administering the account.

Because resellers in Category B assume more responsibilities, they should be given the oppor-

tunity to earn more profit than would those resellers under Category A. Simply said, the discounts offered to resellers operating under Method B should be greater than the commissions offered to resellers operating under Method A. These incentives provide for greater compensation for those resellers assuming more of the support burden; otherwise the VAR, with its own support capabilities, might elect to sell its own service, resulting in lost account control for the vendor. ■

Exhibit P

Two Approaches to Compensating VARs

Method A:

Compensate reseller on a commission basis

Vendor—Provides service and administers account

Reseller—Sells contract only

Method B:

Sell service contract to reseller at a discount

Vendor—Sells service contract to reseller at a discount; provides backup support

Reseller—Resells contract (with or without profit margin); packages contract with its own service

About INPUT

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Service Update

Route:

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A Publication from INPUT's Customer Service Programme—Europe

January 1990

IN THIS ISSUE:

- 1 Ferrari—Profile of a Fast-Growing Company
- 5 Disaster Recovery News
- 6 Snippets
- 7 A Message from INPUT's Managing Director

Ferrari Holdings—Profile of a Fast-Growing Company

Evolution

Ferrari Technical Services, part of the Ferrari Group, claims to be the third largest independent maintenance company in the United Kingdom.

Turnover for the Ferrari Group as a whole is expected to reach £60 million (\$98 million) in 1989, with the Technical Services division accounting for around £12 million (\$20 million) and more than 230 of the Group's 850 employees.

Established in 1975, the Ferrari Group has grown particularly rapidly since its merger with Cifer early in 1989. Exhibit A plots the acquisitions made by Ferrari as part of its strategy for growth.

Ferrari's approach to company selection is to first identify whether or not the target company provides a "service".

**“ Group turnover—
£60 million ”**

Secondly, the profitability of the company is determined. Next, the ease and speed with which the company can be disposed of, should the merger prove unsuccessful, is estimated. Lastly, any "feeder" business that might be generated as a result of the acquisition is taken into account.

Structure

In January 1989, the Ferrari Group reorganised its business divisions into individual limited companies. The intention was to identify, and then focus on, the most profitable areas of the Group's business.

Profitable companies would be developed, loss-makers would be shed. Ferrari thus moved from a position where costs were shared centrally to a position where it assumed the role of a holding company. Exhibit B illustrates current

Continued on next page

Ferrari...from page 1

structure, with each limited company reporting directly to the board of directors. The names of acquired companies are used only where appropriate. Future acquisitions will be attached to this structure.

The performance of individual companies is monitored by a management team. The management team is responsible for ensuring that each company is managed on a commercial basis, and for achieving organisational and cultural changes necessary to ensure profitable operation of the companies.

Ferrari Technical Services

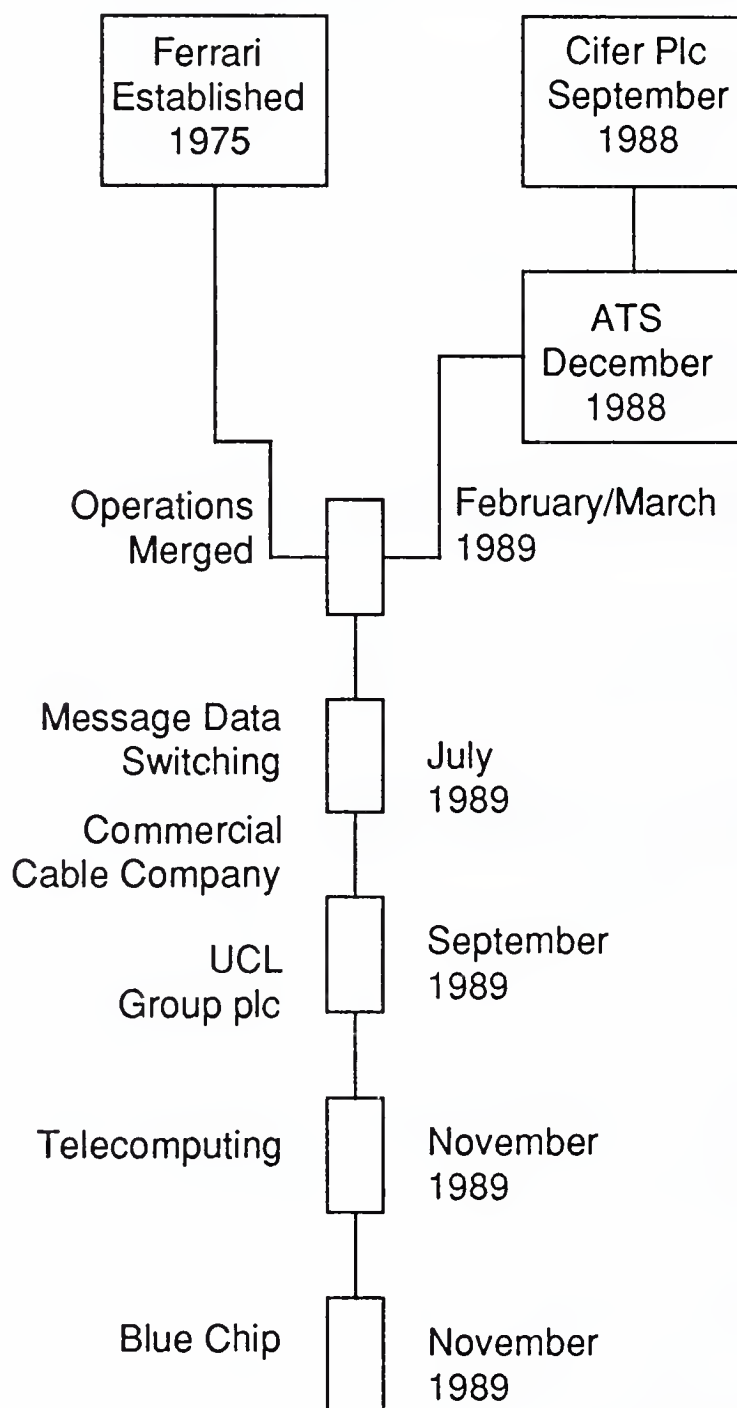
Ferrari Technical Services provides a range of services including computer maintenance, software and application support and training.

“Third Largest Independent Maintenance Company in the U.K.”

Much of Technical Services' business comes from other companies within the Group, although it does have its own active sales force. Ferrari's companies are under no obligation to direct maintenance business to Ferrari Technical Services, which often competes

Exhibit A

Ferrari Group Acquisition Path



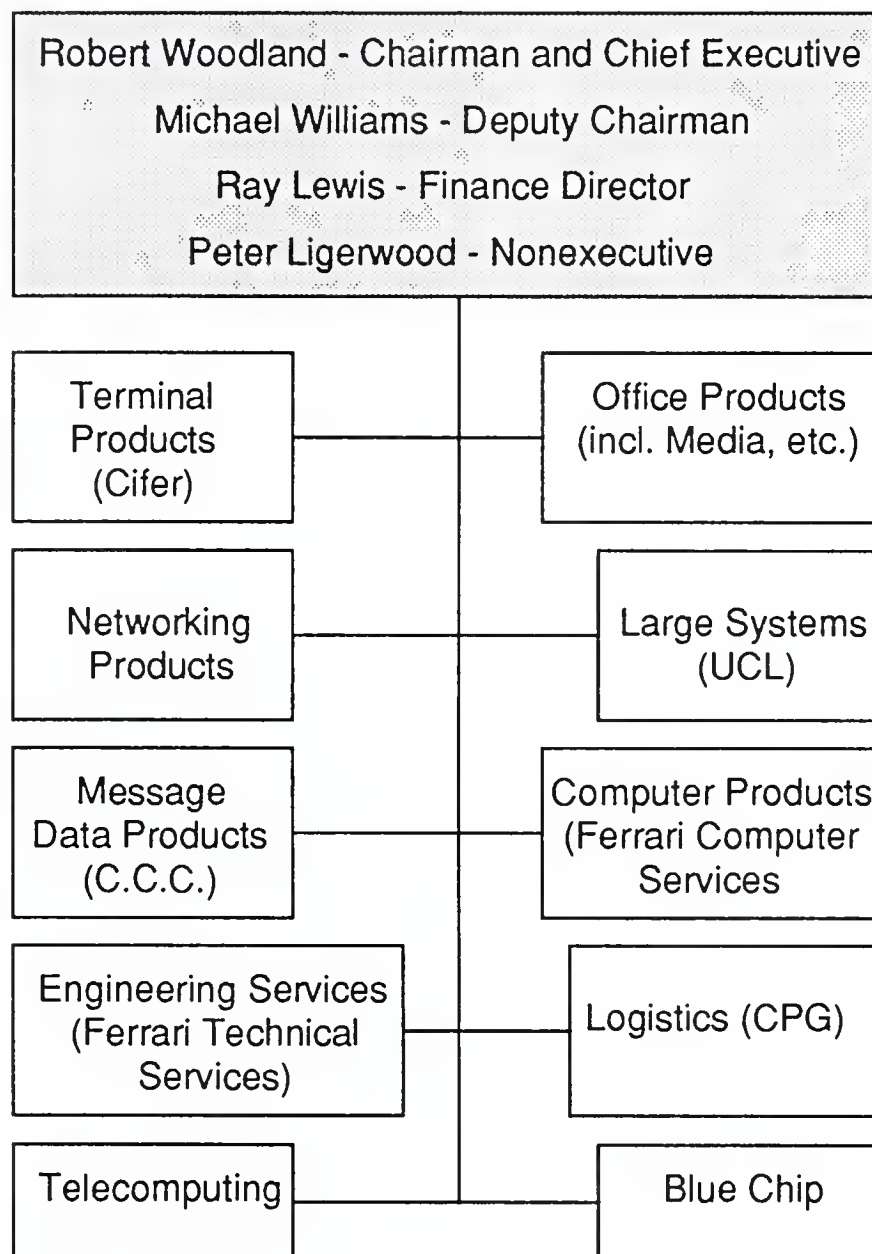
for such business with other independent maintenance companies. The structure of Ferrari Technical Services is outlined in Exhibit C.

The Customer Services division is organised into Northern and Southern regions (Exhibit D).

The Southern region is by far the largest, accounting for a turnover of around £9.5 million (\$16 million) in 1989, which compares with a figure of £2.5 million (\$4 million) for the Northern region. The customer services division is claimed by Ferrari to be the third largest

Exhibit B

Ferrari Holdings Plc



independent maintenance company in the U.K.

Ferrari Technical Services employs 230 staff, most of whom are employed in the Customer Services Southern region. This figure includes approximately 120 service and support staff, 30 Service Centre engineers and around 80 administration, sales and management staff.

The majority of Technical Services revenue is derived from third-party maintenance (TPM) business. Fourth-party maintenance (FPM) business is growing, and at present comes largely from servicing a variety of printers, mostly laser printers. Ferrari claims to have provided maintenance services to most TPM companies in the United Kingdom, and in addi-

tion to have product sales and service partnerships with a number of major manufacturers, including those listed in Exhibit E.

Technical Services specialises in the service of networks, particularly Novell and Token Ring, and concentrates on smaller networks, (i.e., those with up to 20 terminals).

Logistics, customer call control, technical support, cabling services and the running of Ferrari's Service Centres is handled by Central Operations (Exhibit F). These functions have been kept separate in order to ease the strain on Customer Services.

From January 1990, a Field Service Management System purchased from Pinnacle will be used in conjunction with an Altos 2000/25 central processor, with the aim of providing a single point of access for all customer calls.

Other Services

Ferrari Technical Services also offers a variety of training courses. Operating systems UNIX, PICK, DOS and OS/2 are covered, as well as Networking, LAN Manager and Novell Netware. Ferrari training also provides more standard courses on word processing, desktop publishing and database systems.

Major Strengths

Ferrari claims one of its main advantages to be its product skills, particularly in networking. Also, Ferrari believes that

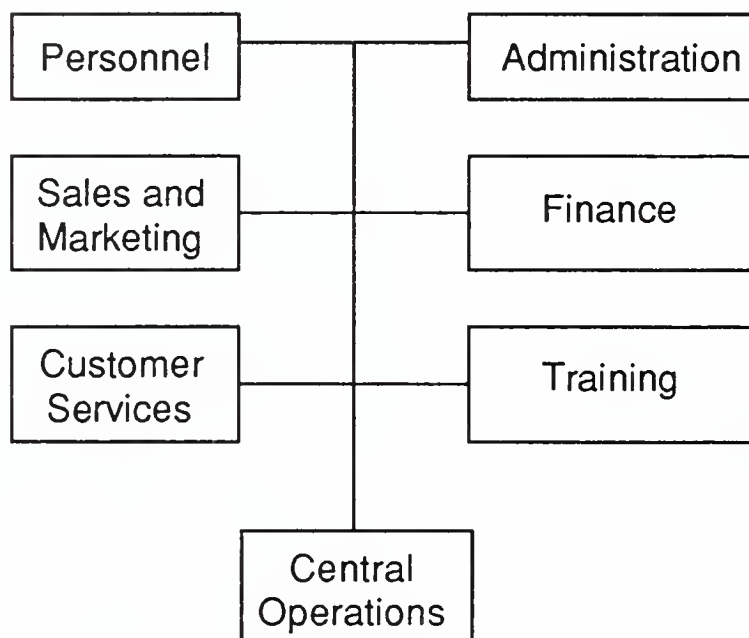
Continued on next page

Ferrari...from page 3

Exhibit C

Ferrari Technical Services

Les Fereday
Director and General Manager
Ferrari Technical Services



its relationship with major manufacturers has enabled it to expand the range of products supported, whilst enhancing the skill level of its engineers, most of whom are trained by the manufacturers.

In addition, Ferrari claims that its "commercial" approach to management is key to providing an efficient and reactive service to its customers. This includes good contract administration and invoicing, and the ability to deliver services that meet exact specification by conforming to customer requirements.

Future Plans

Ferrari Holdings intends to pursue its strategy of growth by acquisition for the foreseeable future, and in 1990 expects to acquire additional companies.

“Strategy of Growth by Aquisition.”

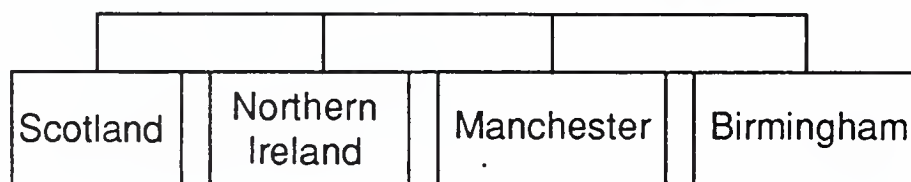
The independent maintenance business is forecast to grow by 20% in 1990. Ferrari expects much of this increased business to come from acquired companies or to be taken from its competitors, and is less concerned about the growth rate of the TPM market as a whole. Fourth-party maintenance business is expected to continue to develop.

Other areas of business Ferrari intends to expand are cabling

Exhibit D

Customer Services Organisation

Northern Region - £2.5 Million (\$4 Million)



Southern Region - £9.5 Million (\$16 Million)

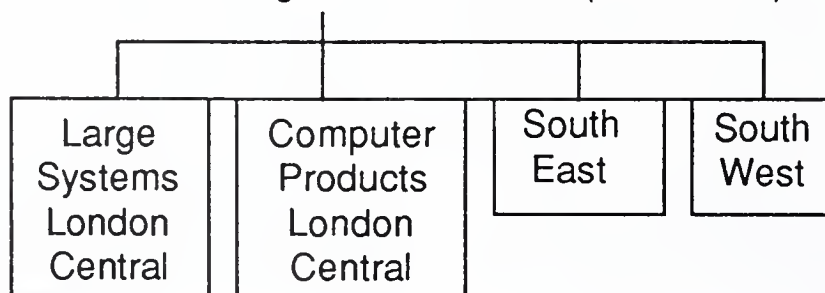


Exhibit E

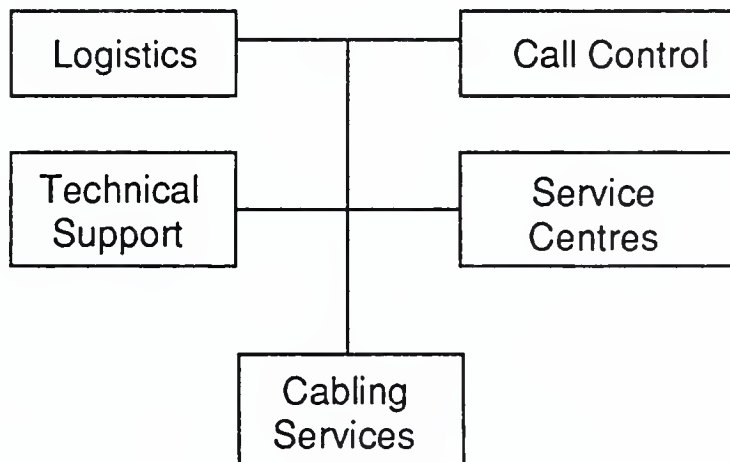
Major Partners

IBM	Apricot	3 Com	Altos
Novell	Retix	Epson	Fortune
Digital	Bull	Tandon	Toshiba
Compaq	Zenith	Hewlett-Packard	

services and training. In 1990 it plans to double, and possibly treble, end-user training revenues. ■

Disaster Recovery News

Exhibit F

Technical Services—Central Operations

In the last issue of *Service Update*, INPUT reported that in aiming at a pan-European disaster recovery operation, Comdisco was planning to link major European cities into a network of disaster recovery centres. These plans included the linking of Frankfurt, Paris, London and Manchester.

More recent information indicates that Comdisco is planning to become a worldwide provider of disaster recovery services. In pursuit of achieving its objective of providing worldwide disaster recovery services, Comdisco has signed a memorandum of understanding with Computer Engineering Systems, a Singapore-based company. A division of Singapore Technologies Industrial Corporation, Computer Engineering Systems already provides the only disaster recovery service in the region, and is developing services in other countries.

The memorandum of understanding relates to a joint venture between Comdisco and Computer Engineering Systems, providing disaster recovery

Exhibit G

Strengths of Ferrari Technical Services

- Customer engineer skills
- Product expertise
- Partnerships with major manufacturers
- Commercial management approach

Continued on next page

INPUT

Disaster...from page 5

services throughout the Asia-Pacific region. Existing operations will likely be extended to Japan, Hong Kong, Taiwan, Malaysia and Australia, and perhaps further.

Comdisco already has 25 sites in North America and 4 sites in Europe offering disaster recovery services to 2000 customers.

From January 1990, Comdisco Disaster Recovery Services (CDRS) will offer a new service.

CDRS Net service will link multiple recovery functions achieved through the use of fibre optics, microwave technology, and telecommunications gateways from AT &T. ■

Snippets

- ❖ Following the acquisition of ITL by Apricot, it has been confirmed that 35% of ITL's workforce (170 staff) will be made redundant. Two of ITL's facilities at Hemel Hempstead will close. In addition, Apricot staff levels will be reduced, mainly in the area of sales and administration. Staff reductions within ITL are likely to be mainly in the areas of hardware manufacturing.
- ❖ Ferrari Holdings, profiled in this issue of *Service Update*, is planning to acquire what remains of the maintenance and service company MBS.
- ❖ Rank Xerox is not renewing a maintenance contract with Thompson CSF, valued at £60,000 (\$98,000). Instead, Rank Xerox is considering using Digital to maintain its VAX systems at Welwyn Garden City in the U.K. It is claimed that reductions in staffing levels at Rank Xerox have reduced the need for the level of service that was provided by Thompson CSF.
- ❖ Europe's largest independent maintenance company, Granada Computer Services, is providing a warranty service for equipment vendors, dealers and distributors. The service offering, called Manufacturer Support Programme, covers primary to extended warranty, through either an on-site or return to base service. The services will be available from several european centres.
- ❖ In the U.K., IBM is in the process of finalising agreements with dealers that will enable IBM to provide maintenance of any vendor's hardware. The original plan was for the service to be available from the beginning of 1990. The new service, part of IBM's Enterprise Service Agreement, is aimed at providing single-source service to users, and will likely involve the use of subcontracted resources.
- ❖ Altos Computer SA and 3M in France, have announced a joint venture maintenance subsidiary. The joint venture, named Technical Maintenance Computing (TIM), is 51% owned by Altos and 49% by 3M. It is believed that both West Germany and the U.K. are included in these plans, with West German operations commencing around the end of 1989 or the beginning of 1990, and those in the U.K. around mid-1990.
- ❖ Ferranti International Plc has sold its Service and Maintenance division to ServiceTec, a maintenance company based in Stevenage, U.K. The sale, valued at £17 million (\$28 million), includes the Ferranti Computer Systems Support Centre. Ferranti retains a 5% shareholding in the newly financed company, ServiceTec. Funding for the acquisition was provided by venture capital companies and banks.

A Message from INPUT's Managing Director

Customer Service in the 1990s

I believe that the next ten years will be a time of challenge, change and opportunities for customer service organisations. 1989 was a difficult year for most equipment vendors, as squeezed margins on hardware sales and a general slackening in demand for equipment took effect. Independent maintenance companies faced increasing competition from equipment vendors in the U.S.A and Europe.

All major vendors are working to increase the range of non-hardware support services that they offer to customers. This is leading to the concept of the account team that sells and services the client. The equipment salesman is one member of the team—equally important are the other support members, for example, the professional services consultant or the network services consultant.

The supplier thus presents to the client a team that demonstrates a range of capabilities—in particular the ability to present a "business solution" to the customer.

The idea of selling "business solutions" is certainly not new, but the effective implementation of it is still a major challenge for equipment suppliers. In particular, the middle management in companies may find it the hardest to adjust to the change. The senior management is fully convinced of the need to develop this integrated approach.

The field sales and support forces are typically directly motivated to sell the range of services by having direct sales quotas of support services as well as equipment quotas. Today's sales forces are "Professional Services" salespeople—the hardware is just one element of the solution. Middle managers will have to change their approach. This will be difficult, since their success has been built on the traditional hardware sales and hardware maintenance business.

Users are increasingly seeking outside solutions to their complex computing needs. Typically, the in-house data processing department is late in producing new systems, has a very high backlog of applications, and finds it difficult to recruit suitably skilled staff. Hence the rapid growth in the systems integration market and facilities management (systems operations) markets in Europe. Both these markets are being analysed and their opportunities forecast in INPUT's new report, *Systems Integration Programme—Europe*.

One of the attractions for facilities management suppliers is that it is a natural follow-on for a company that has designed and installed a complex system for a client. Who better to run and maintain the installations (and even own the equipment) than the supplier who built the system? Operating and supporting the system for the

customer provides an annual source of renewable revenues.

IBM is exploiting this market in the U.S. and in Europe, competing with such companies as Andersen Consulting, EDS, Hoskyns, CSC, and SD-Scicon.

INPUT's 1990 *Customer Service Programme—Europe* report will look in more depth at the trends in service and needs as seen by major users. For many years, INPUT has researched the levels of satisfaction with services provided by suppliers. However, the qualitative approach, with in-depth interviews of users, will provide a better understanding of users' needs for different types of current and future services, and their attitudes towards single-source service providers.

INPUT will also continue to measure customer satisfaction trends in European services with a programme of telephone interviews.

Our *Service Updates* are now monthly, in response to demand from our clients.

Thank you for your continuing support of our research and consultancy.



Keith Hocking
Managing Director

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Service Update

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A Publication from INPUT's Customer Service Programme—Europe

February 1990

IN THIS ISSUE:

- 1APT—Europe's Largest Fourth-Party Maintenance Company
- 5U.K. Government Updates Maintenance Policy
- 6News from the USA
- 7Snippets

APT—Europe's Largest Fourth-Party Maintenance Company

Appplied Peripherals Technology (APT) was established in 1983 as a wholly owned subsidiary of Applied Magnetics Corporation (AMC). In 1989, revenues reached \$6 million and APT now claims to be the largest fourth-party maintenance company in Europe. One of the key factors in APT's success is the credibility it has achieved due to ownership by AMC.

AMC was founded in Goleta, California in 1957. Today the company has around 70% of the world market for the manufacture of magnetic heads used in disk and tape drives, supplying OEMs in the peripheral data storage industry. AMC now has 22 factory facilities in eight countries, including seven in

Europe. The company employs over 9,500 people worldwide and 1988 net sales reached \$293 million (see Exhibit A).

Applied Peripherals Technology

During the early 1980s, AMC embarked on a project to repair disk drives with a number of OEMs. The business proved successful and it was decided to establish a subsidiary company, APT. Exhibit B provides a breakdown of APT's revenue over the last two years, and a 1990 European forecast.

The APT operation now has six repair facilities worldwide, providing repair, refurbishment and remanufacturing service on

disk drives and tape streamers. There are two European repair facilities based in Dublin, Eire, (adjacent to AMC's drive manufacturing plant) and Turnhout, Belgium, (adjacent to AMC's tape head factory). Despite their close proximity, the APT and AMC facilities are separate legal entities. The repair facilities have a combined Class 100 clean room floor space of 7,000 square feet.

In addition to the repair centres, APT runs three European logistics centres at Chester (U.K.), Frankfurt (serving Germany, Austria and Switzerland), and Paris (serving France, Spain and Portugal). The joint

Continued on next page

APT...from page 1

AMC/APT European Headquarters is based in Brussels. By mid-1990, APT expects to employ 350 direct staff at the two centres. The majority of repair work is carried out at the Turnhout facility and APT claims this facility to be the largest in Europe. It repairs 4,000 - 6,000 drives per month and over 200 drive types, including 3 1/2, 5 1/4, 8, and 14 inch disk drives. The company has a strict policy of not subcontracting repairs to other parties.

Since 1986, the Turnhout facility has supported not only OEMs, but a variety of different companies. APT believes that centralisation is critical in providing the economies of scale necessary to support such a complex and capital-intensive activity. It was realised at the company's outset that the European, rather than the highly competitive U.K. market alone, should be addressed. APT's European operations are coordinated in Brussels; the company's management structure is outlined in Exhibit C.

APT believes its success in disk repair is largely the result of its close relationship with Original Equipment Manufacturers (OEMs). APT will not repair drives without the full approval and cooperation of the drive manufacturer. It should be noted that whilst APT's parent company, AMC, is by far the largest supplier of disk and tape magnetic heads in the world, proprietary information regarding the specification of such products is not communicated

Exhibit A

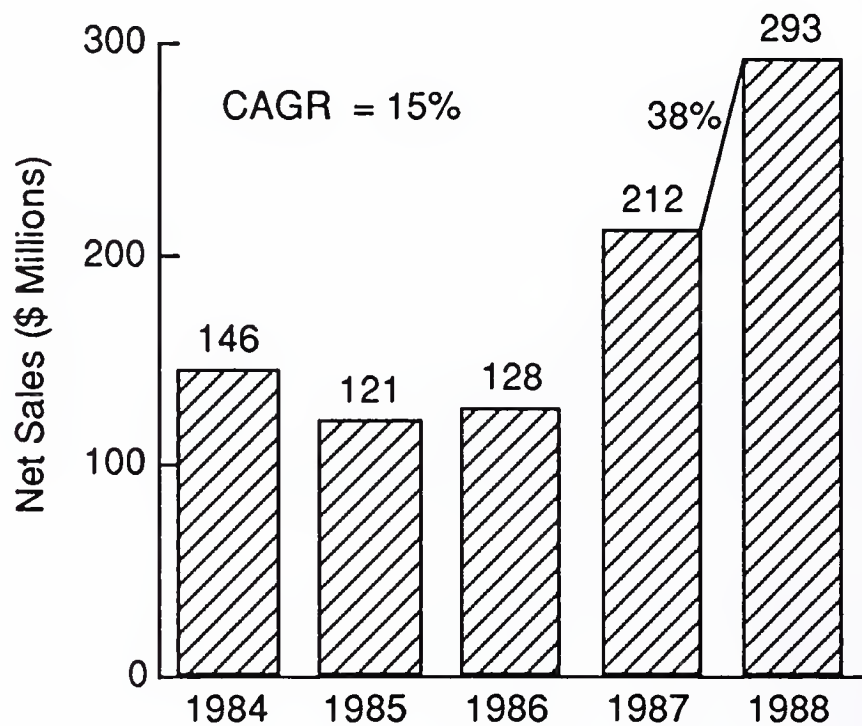
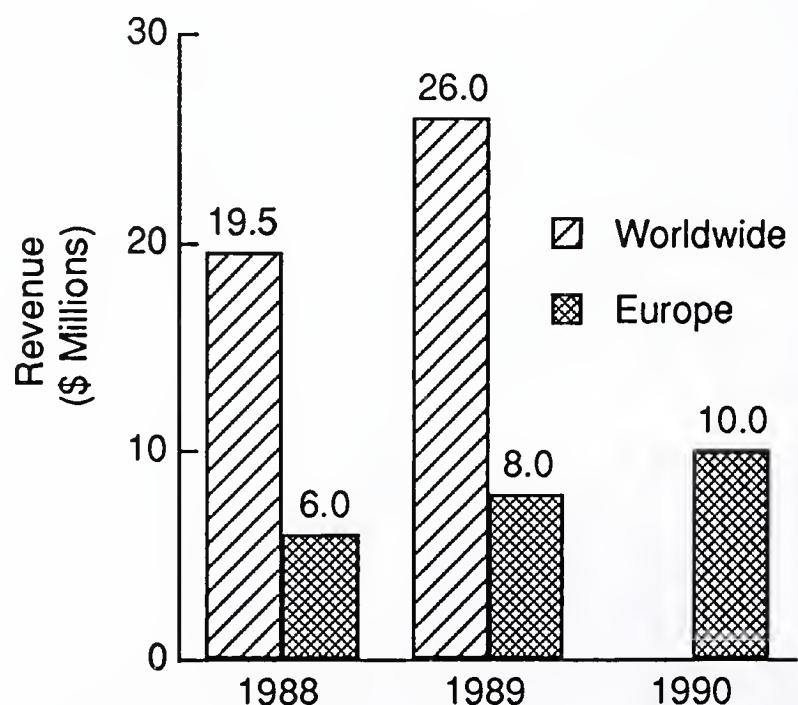
**Applied Magnetics Corporation
Net Sales**

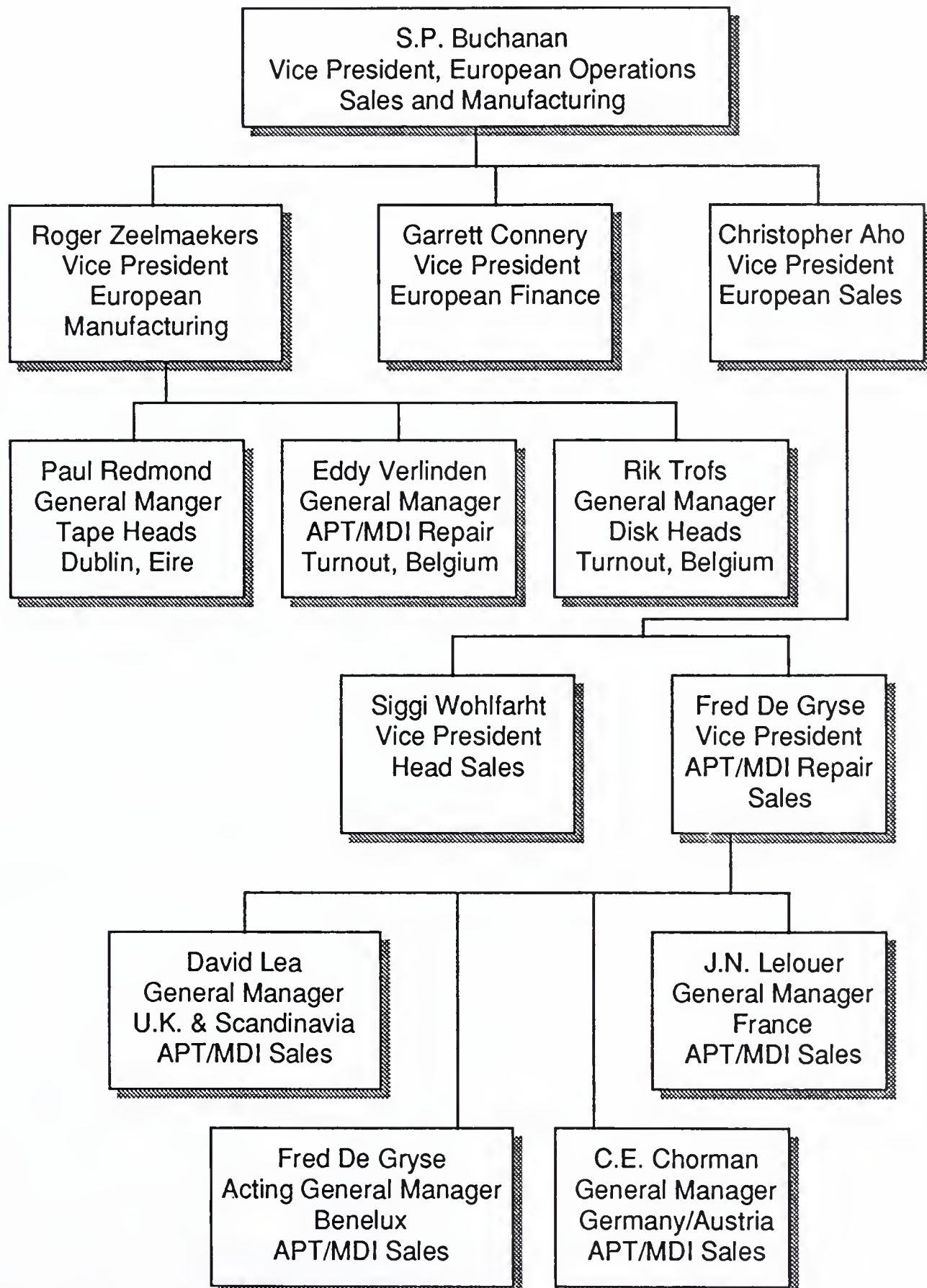
Exhibit B

**APT Revenue Growth and Forecast
1988-1990**

Note: 1990 worldwide revenue growth not available

Exhibit C

European Management Structure of APT



Continued on next page

INPUT

APT...from page 3

Exhibit D

OEMs Officially Supported by APT

- Toshiba
- Hitachi
- JVC
- Synquest
- CDC/Imprimus
- Wangtek
- Microscience
- Irwin
- Miniscribe

engineers with specialist knowledge in the design of particular

OEM products (cognisant engineer is the term used), who are responsible for the quality of repair work carried out. These engineers design the repair process, produce appropriate documentation and interface with the OEM customers.

Set-up costs for the repair of disk drives is high, and a market the size of Europe is required before a

modify the servo-writer machinery required by APT in the repair of more sophisticated drives. The servo-writers, together with the tooling and customising they require, often cost \$300,000 or more to develop. By employing the expertise of AMC, APT is able to reduce the costs of development by up to two-thirds. The major strengths claimed by APT are summarised in Exhibit E.

APT's service offering is not restricted to drive repair. As illustrated in Exhibit F, APT also provides technical revision services to incorporate recent technology into older products, and end-of-life manufacturing support for OEMs no longer wishing to support ageing products. In addition to these services, drive analysis and data recovery services are offered to OEMs and larger companies.

to APT. Information can only be provided by the OEM, and management of this approach to confidentiality is key to APT's ongoing relationships and success. The OEMs that APT officially supports are listed in Exhibit D.

As the price of disk and tape storage has fallen throughout the 1980s, manufacturers have responded by producing ever more sophisticated drives employing modern manufacturing techniques. Without highly sophisticated repair facilities, many drives would be irreparable and the cost of reverse engineering would be greater than the cost of production.

APT uses production line techniques in the repair process. Equipment for repair is inspected on arrival, bar-coded and the packaging checked for re-use. APT has recruited

return on investment can be expected. Significant returns only last for a period of around 2 years, peaking as warranty levels decline.

Whilst the risks of this level of investment remain high, APT benefits from its relationship with AMC, which is able to

Future Plans

APT believes that the 1990s will see the continued erosion of common technology platforms. As these constants disappear, product developments become

less predictable or manageable, firm relationships with OEMs will be even more critical. Reverse engineering will become still more difficult, particularly for larger products, which APT expects to become fewer in number yet more sophisticated.

Investment in optical storage

Exhibit E

Major Strengths of APT

- Relationships with OEMs
- AMC experience and expertise
- Economies of scale
- Specialist engineer skills

Exhibit F

APT Service Offerings

- Drive repair
- Technical revision services
- End-of-life manufacturing
- Drive analysis
- Data recovery

are likely to be added to the four currently operating. These would most likely be located in Scandinavia or southern Europe, in the Mediterranean area.

Another area of business APT hopes will grow is end-of-life manufacturing, due to the shortening life-span of products introduced into the market. In

vival in the FPM business, citing the notable failure of more than one venture as proof that no significant repair company can hope to succeed simply by targeting its business at the customers of manufacturers.

At time of going to press, APT informed INPUT of its new relationship with U.S. disk drive manufacturer Miniscribe. AMC has agreed to write off an \$18 million debt owed to it by Miniscribe, in return for the exclusive right to repair Miniscribe's disk storage products.

Also, APT advised:

- That it has recently signed a contract for end-of-life manufacture of five products with one company, which will be carried out in its facility in Dublin.
- It is looking into the possibility of opening a third repair facility in Europe in 1990
- That it is investigating opportunities within the Eastern Bloc countries (outside Russia) and is looking for likely partners in this venture. ■

technology by parent company AMC has been high, and APT expects to be well positioned when the appropriate skills are required. However, APT foresees magnetic storage technology developing for many years to come, with optical storage opportunities restricted by existing scientific know-how to certain niche markets.

As APT's operations reach a critical mass in individual countries, a major objective will be to improve logistics and extend existing stock exchange facilities. Additional logistics centres

in addition, APT will shortly be introducing a special service aimed particularly at companies which hold sensitive information on disk and are reluctant to release faulty disk drives for off-site repair. Training and on-site support will be provided to enable customers to remove media and perform other security operations themselves prior to releasing the faulty disk drives for repair.

APT attributes its continued success to its partnerships with OEMs. It believes these relationships to be the key to sur-

U.K. Government Updates Maintenance Policy

A statement of policy regarding single-source maintenance has been released by the Central Computer and Telecommunications Agency (CCTA), the U.K. government advisory body, to suppliers of systems and services to the gov-

ernment. INPUT spoke to the CCTA to gain a clearer understanding of the policy and its implications.

The CCTA claims that in certain instances significant cost savings have been achieved by

awarding maintenance contracts for entire sites or product types to single suppliers, on a competitive basis. In addition to cost reductions, the CCTA claims other benefits such as improved service quality, reduced administrative overheads, greater

Continued on next page

U.K. updates...from page 5

flexibility and the opportunity to maintain obsolete equipment previously excluded from a maintenance agreement.

The CCTA already provides advice and guidance in the form of Standing Arrangements and draft Operational Requirements. Standing Arrangements have been established by the CCTA with a number of suppliers, to enable departments to identify and select companies which can maintain a variety of products of the same type, such as laser printers or PCs. The draft Operational Requirement is designed for use by departments with more complex requirements, such as the

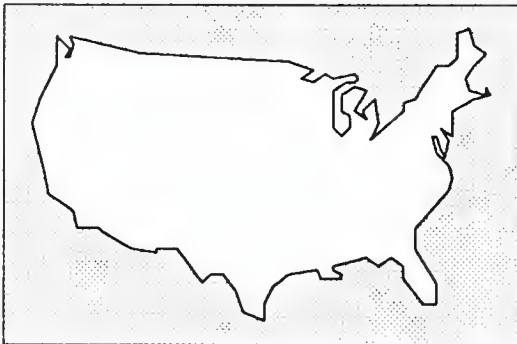
maintenance of all systems and peripherals on a site.

The CCTA has re-emphasised the government's intention to continue down the SSM route, and has stated its desire to overcome existing problems which it believes are caused by suppliers' unwillingness to cooperate with single-source maintainers. Availability of spares and diagnostics, engineering software and documentation are cited as particular problem areas.

Suppliers of equipment and services to the government have been asked to state clearly their policy regarding sites on which they have a presence but do not provide hardware maintenance services. Suppliers who reduce

the level of software support or raise its costs would not be considered as future suppliers to the government. Spares and engineering diagnostic software are expected to be made freely available. Suppliers are also asked under what circumstances they would consider bidding for SSM business, and whether or not they would require a major presence on-site before doing so.

Single-source maintenance does not appear to be an issue for the U.K. government alone, for as the CCTA points out, an EC/GATT Services Directive requiring advertising of public sector service contracts is scheduled for introduction in mid-1991. ■



IBM Announces Selective Price Increases for Maintenance

In mid-December, IBM announced increases in the Minimum Maintenance Charges for IBM Maintenance Agreement Service and Warranty Options for selected IBM and non-IBM products, largely displays and

News from the USA

printers. These increases become effective April 1, 1990 for monthly maintenance. Charges billed on a quarterly or annual basis will be effective with the beginning of the next billing period after April 1, 1990. The effective date for state and local government customers is April 1, 1990, or the beginning of the customer's next fiscal year after January 1, 1990, whichever is later.

The price increases range from 8% to 40%, depending on the products and the type of con-

tract. Increases for products with monthly charges ranged from 8% to 10%, while maintenance products billed on an annual basis increased by 9% to 40%.

Many of the products that were excluded from the November 1989 3% price increase were part of this annual increase. ■

Snippets

- ❖ IBM UK has reduced maintenance agreement charges for the 4381 and 3081 by 20% and 15% respectively. This announcement follows the 6% maintenance charge increase IBM UK made in September 1989 for products other than the 4381 and 3081. (For more on IBM maintenance prices, see News from the USA.)
- ❖ TekServ Computer Services Ltd, a division of MAI Holdings, claims to offer support to users of Wang VS300 computers 25% cheaper than Wang does. Fixed-price maintenance contracts for Wang processors and peripherals are available, with response times varying from 2 to 8 hours, depending on user requirements.
- ❖ Sequel Inc, disk repairer for Unisys in Santa Clara, is now offering similar services to other manufacturers of head-disk assemblies. Sequel claims to employ over 600 staff, including 100 engineers and scientists with several years experience in the disk drive industry.

The company also claims to have over 350,000 square feet of manufacturing and engineering space, including 40,000 square feet of clean room area. Repair services for 14", 9" and 8" drives will be offered to both OEMs and independent service firms.
- ❖ ACT Computer Support, the result of the merger of Apricot Computer Systems with DDT Plc and ITL's maintenance arm, will provide support services and maintenance for the micros and mainframes of a variety of manufacturers. The company aims to specialise in the provision of hardware service of UNIX-based systems.
- ❖ Thomainfor, the TPM company owned by Thompson SA, has acquired the Belgian main-

tenance company General Electronics Manufacturing from Société Generale de Belgique SA and Groupe AG.

- ❖ TIE/Communications Inc. is close to formalising an agreement which will enable it to provide support services, warranty and maintenance for the entire small business systems customer base of U.S. West Communication Inc.
- ❖ IBM in the U.S. has introduced an end user support programme for PC users. Desktop systems covered include IBM PS/2s, IBM PCs and compatibles and Macintoshes, on sites where numbers are sizeable.

For \$30 a month per machine, users will receive handholding services consisting of 24-hour, seven-day-a-week, toll-free help desk support. A number of applications are covered, including Lotus 1-2-3, dBase III and DisplayWrite 5. Support will be provided by a dedicated organisation in Tampa, Florida, which will utilise IBM's knowledge-based systems, on-line documentation and remote diagnostics. As yet, IBM in Europe has not announced plans to introduce a similar service.

- ❖ SMT Goupil SA will supply 3,500 personal computers to the Soviet Union, following an order for 1,000 machines from the state agricultural planning body, Gosagrogram. Goupil will establish a maintenance service to support users, and in a joint venture with the Soviet enterprise Chaninsteor, aims to market its products more widely in the USSR. ■

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Service Update

Route:

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A Publication from INPUT's **Customer Service Programme—Europe**

March 1990

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- 5News from the USA
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Hitachi Data Systems

Integrated Services Division—A Provider Of Customer-Led Service

The integrated services division of Hitachi Data Systems seems to be in a position today where many other services companies would like to be. The company considers that it has responded to the changes in the services industry and met clients' demands for total service from a single supplier.

Background

Hitachi Data Systems (HDS) markets and services mainframe computers and peripherals and employs 2,200 people in 32 countries. It was formed in 1979, when National

Semiconductor, which was then selling mainframes through Intel Corporation with Hitachi, purchased Intel's computer operations. The organisation was then called National Advanced Systems (NAS). In April 1989, Hitachi Ltd. and Electronic Data Systems Corporation (EDS) jointly acquired NAS and the company was relaunched as Hitachi Data Systems. This new name was designed to reflect the 80% ownership by Hitachi with EDS holding the remaining 20%. Hitachi believed that the acquisition of NAS strengthened its position in the plug-compatible equipment market. HDS considers that the

combination of Hitachi's expertise in hardware with EDS' software development capabilities will better equip the company to respond to the needs of its customers.

HDS benefits from the strength of its corporate backing. Hitachi is one of the largest industrial concerns in the world, with total revenues approaching \$50 billion, as shown in Exhibit A.

Hitachi places great emphasis on R&D. The amount spent on R&D last year was up 13% and represented 5.8% of total sales. Special attention was focussed on electronics, semiconductors

Continued on next page

Hitachi...from page 1

and computers, to satisfy the demand for increased processing power. HDS is included in the Information and Communication Systems and Electronic Devices Division, in which sales increased by 19% in 1989, with the computer sector experiencing particularly high growth. The financial performance of the division is also shown in Exhibit A. In response to the spread of distributed systems, Hitachi introduced a new series of small machines, the M-620 series, with a newly developed operating system, VOS K.

The corporate direction of HDS is based on a strategic plan which incorporates the Integrated Services division as an important element. In the U.K., the organisation is run jointly by the operations manager, Jeff Holton and the sales and marketing manager, Peter Duff.

HDS Integrated Services was first set up in the U.K. and has grown to the point where it now accounts for 25% of HDS' customer services revenues. 1990 will see this grow to around 33%

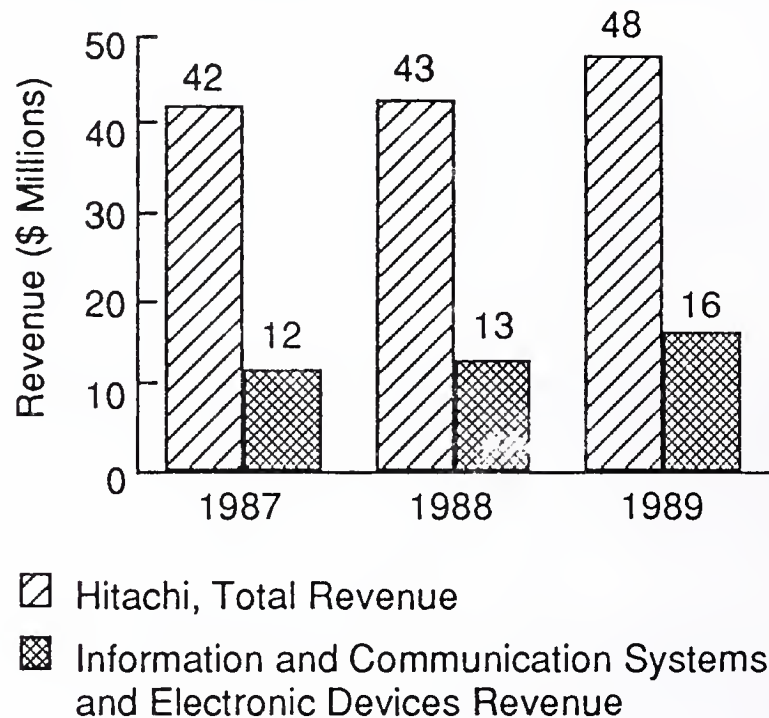
Its customers include: Castrol (U.K.) Ltd, Cornhill Insurance and AST Transact (formally Royal Bank of Canada Systems).

Conception

About 3 years ago, the Customer Service and Support division of HDS re-evaluated its strategies. In view of the trend

Exhibit A

Hitachi Ltd. Revenue Growth, 1987-1989



towards more reliable machines and customer demand for more than just piecemeal hardware and software service solutions, HDS decided that the way forward was to offer the client a total service package: all mainframe computer hardware maintenance would be undertaken by HDS, regardless of vendor. Integrated Services, a specialist division within Customer Service and Support, began to develop strategies to enter this market. The support offered involves placing an HDS engineer on the customer site to totally manage the servicing requirements of all the clients' computer equipment. The HDS engineers are able to service IBM and Hitachi equipment themselves, and the servicing of other equipment is

subcontracted—usually to the original vendor, although in some cases the subcontract is awarded to a third-party organisation. HDS has agreements with over 50 vendors that allow the HDS engineer to liaise, on behalf of the client, with these other vendors. HDS claims that it has more vendor liaison experience than any other company in the U.K.

HDS claims that this method of providing service relieves the client of the huge burden of calling out engineers from different vendors and dealing with the contractual aspects of each. The on-site HDS representative takes on all necessary tasks to ensure that the equipment is returned to full

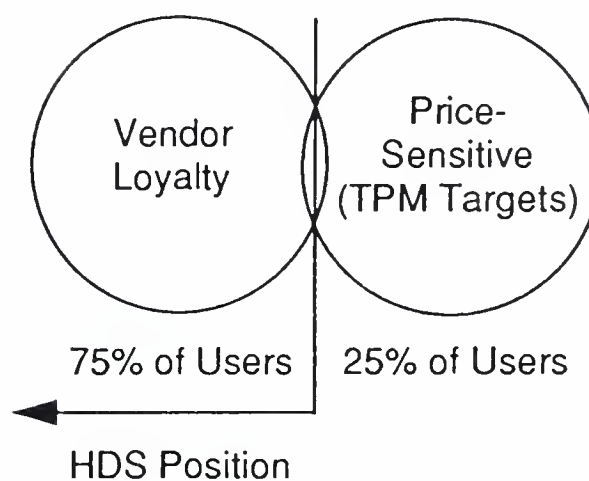
operational status with minimum disruption to the users' activities. One person taking on the management of all equipment service reduces the operating overheads of most multivendor sites. In some cases, the HDS engineer carries out remote diagnostics and remedial action for the other vendors. Very often, HDS claims that the expertise and experience of the engineer can save unnecessary call-outs and he can often pinpoint the problem very quickly. HDS claims that the on-site engineer is able to fix 80-90% of problems himself and is qualified to provide additional skills besides hardware fault resolution. The on-site engineer is often viewed as a member of the client team and has even appeared on a client's own organisational chart.

Current Strategy

HDS is working within a well-defined niche market, and though admitting to not being the most inexpensive provider of service, does claim to be the most comprehensive. Its customers tend to be the larger IBM sites based in London and the south of England. Exhibit B illustrates HDS' service positioning. HDS does not intend targetting the price-sensitive sector of the market, but is aiming at local users who prefer service from vendors. HDS' policy of subcontracting back single-source service to the equipment vendor allows it to satisfy clients' needs. The value of a typical contract is around \$500 thousand. HDS does have some smaller contracts, but does

Exhibit B

HDS Service Positioning



not actively seek them. Very often, HDS claims, business is generated by recommendation. It also appears that HDS can afford to pick and choose its clients: work is turned away if HDS believes that it is not suited to the job.

HDS' recruitment policy is "to find the best," and the job is presented to recruits as "the job for the engineer of the future," a new career path. The role of the engineer is changing—the engineer is now seen more and

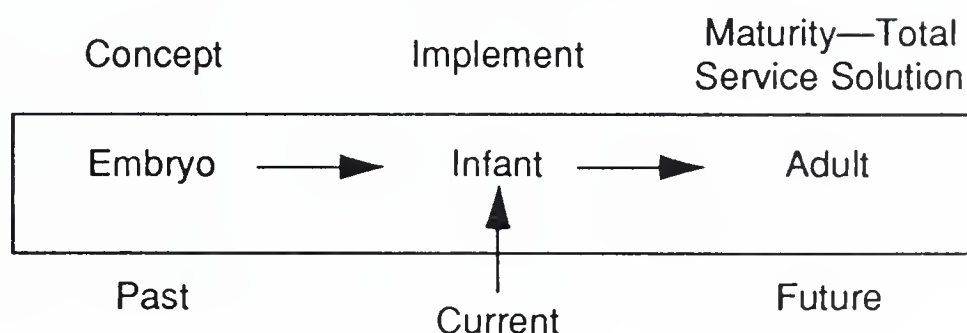
more as a consultant, and a key requirement is skill in customer liaison and account management.

Future Strategy

HDS claims to have identified a niche market, but there is further work to be done before a totally integrated solution can be offered. Exhibit C shows HDS' view of its current position.

Exhibit C

HDS' View of Its Current Position in Providing Service Solutions



Continued on next page

Hitachi...from page 3

HDS sees a need to increase its expertise in software. A certain amount of systems software support is already offered in some cases, but HDS hopes to make it a formal offering by the start of 1991. Leading on from this, HDS plans to tackle applications software with the objective of adding this to its portfolio by 1992. There are numerous other enhancements to be considered, such as networks and office systems. These have been handled in a growing number of cases where the transition has naturally occurred on an informal customer-by-customer basis. However, a country-wide structure has recently been put

into place which can now support distributed equipment as long as they are serviced by a large central mainframe site. HDS' portfolio has potential for further growth with the provision of environmental services. HDS has had experience, for example, of managing the move of a customer's computer room.

That the market for services such as those offered by HDS exists is supported by INPUT's user research, which indicates that in 1989 almost 80% of users had a preference for single-source service. Many other service companies are formulating plans now to put into place similar 'total service' mechanisms, a factor also

supported by INPUT research data. HDS' geographical coverage is limited, however, by the size of its operation. HDS is formulating plans for growth and discussions are now taking place on a nationwide basis with large mainframe users. HDS is also planning for its future growth into Europe. Currently, HDS has two contracts in France and has won a contract for a major site in Holland within the last four months. These contracts are handled by the local customer service and support organisation in each country. Expansion plans into Europe are being actively pursued. The ultimate aim is to provide a truly total service solution. ■

Hitachi Data Systems— Independent Maintenance Operations in the United States

HDS' U.S. operation in Santa Clara, California has been active in the independent maintenance market for five years. In 1988, it reported \$15 million of revenues from independent maintenance, this figure is expected to have grown by about 15 % for 1989. Gary Moore is president of the organisation.

The company has 75 service locations covering the whole of America. It has some 450 employees, of which 347 are field engineers, 60 are in field support and 30 in service management.

The company maintains a wide range of machines, including mainframes, minis, superminis and micros. It also supports peripherals, telecommunications and front end processors.

Brands supported include IBM, Hitachi, STC, Magnuson and Telex.

In addition to hardware and software maintenance, HDS undertakes manufacturer warranty work, preventive maintenance and refurbishment. Recognising the need to be able to provide additional services, HDS also offers training and consultancy services.

All HDS' business is contract-based and the support is always delivered on the customer site. HDS operates in a number of vertical markets, including manufacturing, utilities, insurance, federal and local government, and banking and finance. HDS believes that its competitors are other manufacturers. ■

Unisys U.S. Maintenance Activities

Unisys has been active in the TPM market for five years. Its president is Mr. Gazerwitz and in 1988 Unisys derived revenues of \$35 million from TPM.

It is a large operation, with a total of 9,000 employees involved in service. 7,200 of these are field engineers. Unisys has 339 service locations, including 64 repair depots and one parts depot. The company offers its services throughout the United States, including non-continental US.

Support is provided for mainframes, minis, micros,

peripherals, telecommunications equipment and local area networks. A wide range of brands is supported, including:

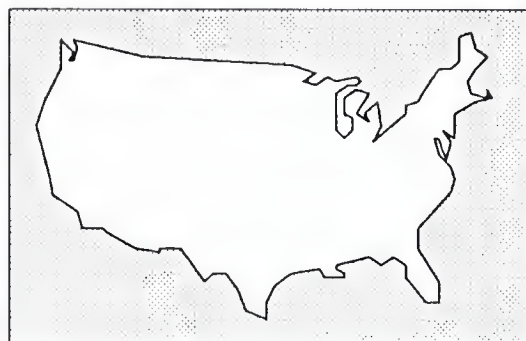
- Epson
- DEC
- Compaq
- Fujitsu
- Toshiba
- Wyse
- Mannesmann
- NEC
- Panasonic
- QMS
- Genicom
- Hewlett-Packard

Unisys provides a range of services:

- Manufacturer warranty work
- Software maintenance
- Training

- Refurbishment
- Installation/relocation
- Preventive maintenance
- Remedial maintenance
- Consultancy
- ECO/FCO (change orders)
- Conversions/upgrade

Most of their business (90%) is contract based with the remaining 10% being hourly per-call. Unisys is targeting various vertical markets, including transportation, distribution, services, medical, banking and finance. ■



News from the U.S.A.

from DEC, Apple, IBM, and Hewlett-Packard in the U.S. December 1989 newsletter. The programs are recapped below, along with those from Unisys and Wang.

The following are two questions posed to INPUT by clients in the United States. The first is indicative of the increased interest in the training and education sector.

Question: What maintenance and support programs are available from the major hardware manufacturers for higher education institutions?

Answer: INPUT addressed the education programs available

Apple—Apple offers four levels of purchase discounts: Educator Buy (teachers receive discount on individual purchases), Student Buy (students finance purchases through the Federal Student Loan Program), Institutional Buy (bulk purchases by the institution), and Contractual Agreement (campus bookstore acts as a reseller to students, faculty, and staff). Under the Contractual Agreement purchase, Apple trains the university staff to

maintain and repair the equipment and helps the university establish an on-site repair depot.

DEC—DEC provides the Campus-Wide Educational Service Program to assist the university or institute to become self sufficient. Under the program, DEC will train the institute's staff in maintenance and repair, provide a 50% discount on parts, and assist in establishing an on-site repair depot to be staffed by the university or institute's employees.

HP—Hewlett-Packard does not offer any special service discounts directed to

Continued on next page

U.S. News...from page 5

universities or educational institutions. HP considers each institutional purchase to be an opportunity for a custom purchase agreement.

IBM—IBM's Educational Allowances program offers discounts on all hardware and software purchases, while the national educational prices apply to microcomputers and related software. To be eligible for these discounts, the institution or university must be an accredited, nonprofit institution of higher education and the equipment must be for its own use, and installed for at least two years before selling. There are no special pricing schedules or discount programs for service—regular service schedules apply.

Unisys—Unisys does not offer any special standard discounts for higher education

maintenance and support procurements. However, there is usually a custom negotiation for maintenance on a case-by-case basis, depending on the particular requirements of the institution. Unisys will train the university's people in maintenance on-site or at a Unisys training centre, at the standard cost schedules.

Wang—Wang does not offer any special discounts for hardware maintenance to educational institutions. Exceptions to this include cases when hardware donations are made to higher education institutions; service is then provided free or at a substantial discount.

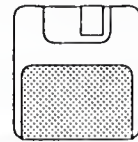
Question: Regarding DEC's VMS software upgrades, does the customer have to be under a software maintenance agreement to receive upgrades? Are the upgrades available at a discount or must a whole new package of software be purchased?

Answer: Software upgrades are available from DEC, independent of a software maintenance contract.

Upgrades are available in the following manner.

1. As part of a software maintenance contract, the upgrades are automatic when the company subscribes to the Media Documentation and Distribution.
2. "A la Carte" upgrades are available where only the upgrade and the documentation are purchased.

It may be more cost-effective under the software maintenance agreement if the system is to be upgraded regularly. Purchasing the individual upgrades is preferable if only an occasional upgrade is required. ■



INPUT Examines the Service Offerings of the Leading Third-Party Maintainers

The updated versions of *Service Vendor Analysis—Third-Party Maintenance, Volumes I & II* (U.S.) are due to be released by the end of the first quarter.

Volume I of *Service Vendor Analysis—Third Party Maintenance* profiles the service organizations of the top ten TPM service providers in the United States, including

revenues from service, and service coverage. Each profile begins with a brief discussion of the organization and its significant actions over the past year. Following the profiles, the report provides summary tables of key service information on the profiled companies to allow quick comparisons. Volume II of the report presents a comprehensive snapshot of the

leading 100 service vendors in the third-party and fourth-party support market, outlining demographic, operational, and strategic information on the vendors in this arena.

These reports will be available in Europe from INPUT at a cost of £1,495.00 each. ■

Snippets

- ❖ IPL Systems Inc., which sells IBM-compatible tape drive subsystems and add-on memory for IBM machines, now has a technical support office in Zaventem, Belgium, which will be responsible for supporting IPL's European clients.
- ❖ Granada has released impressive turnover figures for 1989: £201 million (\$330 million), an increase of around 66% from 1988. The only additional figures currently available are that Granada France achieved 1989 revenues of £17.2m (\$28 million). INPUT estimates that 75-80% of revenues can be attributed to independent maintenance. The remaining revenue is derived from disaster recovery services and DPCE products. DPCE grew by 15% last year.
- ❖ Dixons' maintenance and installation business in the U.K. has been bought by National Technical Services Ltd, part of Bricom PLC. Dixons is retaining its Mastercare after-sales service business.
- ❖ Harwell research has experimented on the effectiveness of smoke detectors in computer rooms. Research has found that as computer rooms are air-conditioned and many pieces of equipment contain cooling fans, it is likely that insufficient smoke reaching the alarm causes a malfunction in the smoke and fire precaution systems.
- ❖ Digital could see losses for the first quarter (to 31 March) as a result of the cost of a major programme of voluntary retirement. This is being implemented to attempt to cut employee numbers by as many as 8,000, in response to the sluggish U.S. computer market.
- ❖ A new entrant to the U.K. disaster recovery market is General Automation Ltd., based in Birmingham. The company is offering disaster recovery services to PICK users and claims that a replacement system can be installed within two hours.
- ❖ Nexus Payment Systems of Welwyn Garden City, U.K., and Cap-RS of Walton-on-Thames, U.K., are the first to launch disaster recovery systems for Stratus and Stratus-compatible systems. The companies offer their clients immediate access to equipment which can be manned by either Stratus or the client.
- ❖ Otis, one of the world's largest lift manufacturers, has signed a worldwide training contract with Macmillan Intek. Based in the U.K., Macmillan Intek has agreed that Otis can reproduce 15 titles from its range of training packages. These packages are part of an 'Open Learning' system, based on books, video and audio tapes. The package for Otis' maintenance staff includes a special lift simulator kit to help train the staff in the latest microprocessor-controlled lifts. This addresses the problem of the knowledge gaps that mechanics experience as a result of their mechanical, rather than electronic, engineering backgrounds.

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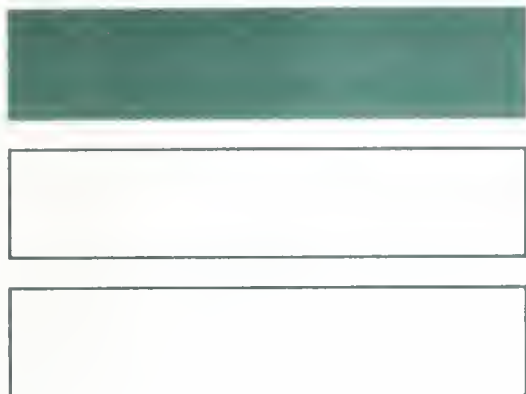
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Service Update

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April 1990

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Cerco Training Ltd

Customer Service Training—A New Initiative

There is an acknowledged shortage of personnel with the right skills in the computer industry and this shortage will become more acute as the number of young people entering the job market continues to fall. One U.K. company, Cerco Training Ltd, has taken steps to fill the shortfall of skilled personnel in one specialised area:

maintenance. The aim of the company is to retrain people of all ages, from all walks of life, in computer maintenance and to equip them with the necessary skills to enable them to take employment as field service engineers. Cerco markets its training programmes directly to potential trainees in advertisements in national newspapers, and to TPMs and dealers needing personnel.

Background

Cerco Ltd was formed in 1988 and began trading in April 1989 as a recruitment consultancy. Cerco Training was formed in September 1989 to provide training for people wishing to pursue a career in maintenance, providing that they have an aptitude for such work. Cerco

Continued on next page

Cerco...from page 1

Ltd and Cerco Training now operate separately. Cerco Ltd is run by Alan Fair and Cerco Training is managed by its founding directors John Forster and Roger Parr. Both have extensive experience in the maintenance industry—John as an operations manager and Roger as a training manager. Cerco Training also employs a personnel manager, three professional instructors and a secretary. Cerco Training's mission is to encourage industry to spend more on training. John sums up the current climate by saying that there is "too much poaching and not enough coaching."

The concept for the company goes back to the 1960s and 70s when Control Data Institute ran courses that were perceived as producing motivated engineers. At first it received partial government funding, then became entirely funded by government and its priorities changed. The directors of Cerco Training believe that the ability of a maintenance organisation to expand depends on its success in recruiting and retaining good people. They believe strongly that training should begin right at the bottom of the career ladder, and should be continuous, thereby offering a definite career progression and continuity of staff for the employer. Cerco's directors' previous experience had taught

them that if companies train their staff from the beginning and continue training throughout an employee's career, the result is quite simply a drop in staff turnover, sometimes to less than 10% a year.

The Benefits of Training

The directors believe that training saves organisations money in the long term. Many maintenance organisations are often not structured to provide training at the right level. Their strategy is to convince industry that training is an investment, not a cost. They feel that they have a considerable amount of re-education to do within the industry, as the training budget is often the first economy in any cost cutting exercise. The directors see enormous benefits for companies that invest in training. They believe that around 40% of costs in customer services are associated with manpower. If a company trains its staff, it will see improvements in the quality and productivity of its staff. This leads to greater job satisfaction and reduced staff turnover, which in turn leads to a better quality of service to the client, better relationships because the staff turnover has been reduced, and a better understanding of clients' systems and needs.

The Seven-Week Course

Cerco Training gives people the opportunity to re-skill. However, the directors only accept people on the courses who show an aptitude. Potential students, who usually hear of Cerco through its advertisements in national newspapers, are invited to attend a series of tests which takes place on a Saturday, either at the Cerco training centre in Nantwich or at Imperial College, London. The tests, developed by the National Institute of Industrial Psychology, are designed to pick out only those candidates who will be successful on the course. There are three tests—one to test intelligence, one to test mechanical aptitude and then a practical test—and an interview to assess the candidates' motivation and to see how they present themselves. The directors of Cerco are convinced of the necessity to screen their candidates first, even though it means turning away over 75% of the applicants. Their aim is to produce only good, highly motivated engineers who can make an immediate contribution to a maintenance organisation.

Once accepted, the students are given a very intensive 7-week course covering all aspects of maintaining PC-based systems, and are instructed in the generic

principles of computer maintenance, thus providing a sound foundation for further product training. Customer relations is an important element of the course. Although only one day is specifically devoted to the subject, it is emphasised during the other modules. The directors of Cerco see that the role of the engineer is changing. Companies are no longer looking for electronics geniuses, but for an ability to relate well to other people and an interest in problem solving. The concept of quality service is also stressed early on.

The lecturers use a mix of conventional teaching techniques. Roger Parr believes that the most important thing about teaching methods is to use a variety of them. These include video, overhead projector, 35mm slides and white boards. The lecture rooms are also equipped with monitors through which computer graphics and the contents of the lecturer's screen can be shown. Exhibit A lists the complete training process and Exhibit B details the course content. The course is designed

for a maximum of 16 students and provides a mixture of theory and lectures and hands-on practical sessions. Students are both continually assessed and given a series of tests. They are also set assignments in the evenings. At the end of the course, if successful, they are given a certificate and are fully equipped to take a job as a service engineer. The directors believe it is realistic for successful trainees to reach a position such as a senior mini systems engineer within two to three years.

Exhibit A

Computer Engineering Training Scheme

Stage 1	Applicants are assessed for aptitude and motivation
Stage 2	Successful candidates are offered a place
Stage 3	Students follow an intensive, practically based 7-week course
Stage 4	Course graduates receive a certificate in computer technology and maintenance
Stage 5	Cerco provides a free career advisory and placement service

Continued on next page

Exhibit B

Computer Engineering Training Scheme

Seven-week course content

- Basic electronics
- Fault finding
- PC maintenance
- VDU maintenance
- Computer architecture
- Introduction to networks
- Introduction to communications
- Quality and stock handling
- Customer care
- Health and safety
- Printer maintenance
- Disk drive maintenance

Financial Benefits

The financing arrangements are interesting. Cerco aims to obtain sponsorships for as many of its students as possible, which guarantee them employment at the end of the course, if successful. Students are currently sponsored by organisations such as TIS and

Sorbus. The directors believe that sponsorship is a very cost-effective method of recruiting. The recruiting company does not have to spend money on advertising or agencies, or spend valuable time on the initial sifting of candidates. The fact that the students have been accepted on the course indicates

a potential to be more than capable of doing the job and to be highly motivated. Sponsorship costs are around £85.00 per day for the seven-week period. During the course, the company does not have to pay a salary, National Insurance, pension or pay for a company car or for accommodation in hotels, all of

which are typical costs borne by companies training their own staff. The sponsorship arrangements vary between companies—some operate repayment clauses if the employee leaves the company within a specified time. Students who do not receive sponsorship sometimes finance their own training or obtain loans.

Cerco aims to attract students from as wide an area as possible and hopes to increase the number of sponsored students. Its first course began in February and a second began in March. Each course has 7 students, ranging in age from 18-42, from previous jobs as diverse as a diving instructor, a market stall owner and a coal miner. One disappointment at Cerco Training is the lack of applications from women. There are no women on either of the courses running at the moment (April 1990), and it has only had applications from two (out of around 1,000 in total).

Views from Students and Sponsors

The students are all enthusiastic about the opportunity that the course is opening up for them. They all feel confident that they have sufficient knowledge to be employed as service engineers. All agree that the course is very hard work, but well worth the

effort. One student said that the fact that he had taken an aptitude test gave him a tremendous amount of confidence and meant that he went on the course with a very positive attitude. One student praised the quality of the course content, saying that it was obvious that the company had years of industry experience.

David Bradshaw is Managing Director of TIS Computer Maintenance Ltd and is sponsoring seven students. He thinks that Cerco's training concept is completely appropriate for the industry. He says that currently, there is no good route for people to enter the maintenance business and no formal qualification exists for maintenance engineers; Cerco is taking steps in the right direction to correct this. He agrees with the benefits of putting money into sponsorship rather than recruitment. Bradshaw thought that the screening procedure was carried out well, and his Operations Manager was impressed with all the candidates he interviewed. This was very important to Bradshaw, as he has spent a lot of time in the past interviewing. He acknowledges that there is an element of chance. The first recruits are only now finishing the course, so there is no established track record. (Cerco, however, undertakes to replace any unsatisfactory employees joining an

organisation from the course). However, the feedback from the course has been very positive. An important advantage for TIS is the fact that the trainees will be entry-level people with realistic salary expectations, giving TIS scope to work with them and promote them through the organisation. In addition, they will not have developed any bad habits from previous companies. David Bradshaw is confident that this is the correct way forward.

Sally Mayo, Personnel Manager from Sorbus, echoes Bradshaw's comments. Sorbus is sponsoring some students, which involves paying for the students' course fees and guaranteeing them a job at the end of the course, and is recruiting other students directly from the course. Mayo has been very impressed with Cerco's approach. She, too, appreciates the fact that Sorbus' time is not wasted in interviewing unsuitable candidates. All the candidates interviewed were of a very high calibre and she has confidence in the thoroughness of the screening procedure. A graduate from the first course joined Sorbus recently and has adapted very quickly to the working environment. Mayo believes that the courses address an area where there is a considerable skills shortage. She has been very impressed with Cerco's directors, saying that the fact that they come from

Continued on next page

Cerco...from page 5

within the industry means that they have a very good understanding of the industry's needs and concerns. She is also appreciative of the fact that Cerco has had the vision to take into account changing skill needs: there is a great emphasis on customer relations in the course content. Customer contact will increase in the future and technical skills are assuming slightly less importance as equipment becomes more reliable.

Future Directions

Cerco's directors do not believe that they have any direct competitors. There are, of

course, many training companies, but none are considered to produce such high-calibre maintenance engineers. Cerco plans to expand its operations. By the end of the third year, they expect revenue in excess of \$1.5 million. As they have not finished their first trading year, there are no revenue figures available yet, but the company is currently operating ahead of budget. In theory, Cerco will accept students from anywhere, although in practice—because all students must attend the aptitude tests—their catchment area is mainly in the U.K. In the future, Cerco will consider taking on qualified agents to administer the tests elsewhere in Europe, or wherever there is demand.

The directors see that training will do much to fill the skills shortage and they aim for industry recognition as a supplier of high-calibre, motivated engineers. They foresee a much greater demand for UNIX training in the future and hope to reach more people in this fast-growing area.

In addition to its service engineer training scheme, Cerco Training also offers commercial training, aimed at people already in maintenance organisations. At present, this represents only about 20% of its revenues. The commercial training covers all the aspects of the service engineer training scheme as well as more product-specific training and management training.

The product or functional courses typically last for a week or less, and are either based on a specific manufacturers' products, or can be elements of the seven-week course. The directors view management training as an important element of their services and are convinced of the need for good management skills in the computer services industry. Cerco will also undertake customer-specific training, where a package is customised to fit the client's requirements. ■

Exhibit C

Cerco Training Ltd—Activities

- Computer engineering scheme
- Product training
- Management training
- Customer-specific training

News from the USA

Decision Data Service Inc.



Decision Data, Inc. is a result of the late-1988 merger of Decision Industries and Momentum Technologies. The new Decision Data organization, strengthened by the operational and financial synergy of the merger, has become a more aggressive player in the third-party arena in the past year, and will most likely continue in its acquisition strategy in the 1990s. Decision Data Service, with 1988 TPM revenues of \$125.0 million, has assembled a field service force to rival top third-party competitors. Continued growth will place it among TPM leaders in 1990.

Early in 1989, Decision Data Service strengthened its third-party operations with the acquisition of FDR Field Service from American Express Travel

Related Services Company. FDR had been a long-standing TPM player since its entry into the TPM arena in 1984 with the acquisition of its Indeserv unit, and later with the NJ-based Kalbro third-party company. FDR's service organization had grown into an estimated \$25 million business over its five years in the third-party market. The acquisition will also bring Decision Data Service considerable business in the point-of-sale (POS) terminal maintenance arena.

Decision Data Service—The Company

Decision Data Service has 1,300 service employees at 125 offices across the U.S. The firm's field engineering staff has grown to

700, and third-party activities contributed \$125 million in revenues in 1988.

Decision Data's business has traditionally included a number of industries, as well as the federal and state/local government markets. Heavy presence in the midrange IBM arena has allowed the company to foster relationships across industry lines. The acquisition of FDR's service business will extend this presence in the DEC marketplace. The importance of the distribution sector in Decision Data's business plan will be increased with the POS business acquired through the FDR merger.

Decision Data Service targets the IBM System/36, /38, and AS/400 service markets, and

Continued on next page

Decision...from page 7

complements its support offerings with the sale of peripherals (terminals and printers), add-on memory, and power supplies through its sister corporation, Decision Data Computer Corporation. Other brands supported are listed in Exhibit D, with the products maintained listed in Exhibit E.

Decision Data Services provides a wide range of services, including hardware maintenance, training, consulting, installation/relocation, conversion/upgrade, refurbishment, and fourth-party maintenance.

Future Plans

Decision Data Service has remained focused on the midrange marketplace, and its calculated acquisition strategy has successfully provided penetration into this target market. With competitors such as IBM, Wang and DEC, Decision Data Service has concentrated on fortifying its field force and expanding geographic coverage over the past few years in order to hold its ground in the highly competitive minicomputer arena.

The company's presence in the DEC marketplace has been

Exhibit D

Brands Supported

- IBM
- Wang
- Texas Instruments
- Qantel
- Mohawk Data Sciences (MDS)
- Decision Data Computer Corp. (DDCC)

Exhibit E

Products Maintained

- Minicomputers
- Superminis
- Microcomputers
- Peripherals
- Telecommunication modems and multiplexors

strengthened by the recent acquisition of FDR and its customer base. Decision Data has also been able to capitalize on Wang's deteriorating financial condition, winning considerable business in the Wang VS systems marketplace in 1989.

Despite a number of new extended-service announcements made by IBM in 1989, Decision Data Service has not felt the competitive pressure as severely as in previous years in the IBM arena. The company's management has an optimistic outlook on the IBM marketplace, feeling that the market may have seen the end of heavy price competition induced by IBM discounting. The next wave of competition is expected to come from the trend toward unbundling of services, and the importance such flexibility has for users.

Certain third-party firms who have catered to this flexibility have consistently given the competition a run for the money. Other TPMs, including a number of major players in Decision Data's marketplace, have been slower to react to this trend in market demand, and have suffered at the bottom line for it. Decision Data is attempting to take heed of this, and to leverage its newly strengthened service resources to meet user requirements.

Decision Data Services foresees the network support trend as one of the new market and strategy challenges for the 1990s. Decision Data recognizes the requirement (and opportunity) to support these networks facing the TPM market as networks become the important issue of the 90s. Decision Data Services is planning to enter the network

support arena in the coming year, expanding service offerings to include a full range of hardware and software support involved in PC/network services.

Overall, Decision Data Services has perceived a new atmosphere evolving in the third-party marketplace, as market consolidation becomes more intense. More specific than individual acquisitions made over the past year, the company sees the third-party market changing, and the TPM arena beginning to rival the overall information systems marketplace in terms of instability. Decision Data Services has been a significant participant in this change of face, and will undoubtedly continue in its acquisition strategy in the 1990s. ■

PC/Workstation Service and Support Requirements Examined

I NPUT's new report, *Personal Computer/Workstation User Requirements*, examines users' requirements for service and support. This report, available during the first quarter, analyses current service and support requirements, users' experience with and contacts by third-party maintenance providers, and service opportunities.

User groups representing Altos, Apollo, Apple, Compaq, IBM, Sun, and Tandy PC/workstations are examined first as a whole and then individually to facilitate comparisons. Areas covered include: factors important in choosing a service vendor; service contract coverage; and user requirements for and satisfaction with system

availability, response time, repair time, hardware maintenance, software support, and ancillary services. Each analysis concludes with a summary of strengths and weaknesses as reported by the users.

This report can be ordered from any INPUT office. ■

Questions from the USA

The following are questions that some of our U.S. clients have asked us:

Question:

Is there a "Bluebook" available for used computer equipment similar to that for used automobiles?

Answer:

The only "Bluebook" that INPUT found in production is published by Computer Merchants in New York City for used IBM equipment. The price guide is published quarterly and a subscription is available for \$48.00 per year.

Question:

What services are available for the Unisys On-Line Transaction Processing (OLTP) equipment that have many of the features of the fault-tolerant machines and are not covered by the Surety program?

Answer:

The Unisys OLTP machines are yet to be released and therefore are not covered by Surety. Unisys anticipates releasing these machines by the end of the year.

Question:

Has any maintenance pricing been released on the new Hewlett-Packard Laserjet III for beyond the warranty?

Answer:

Maintenance on the new Laserjet III will be the typical support offering under the Success Line Program printer/peripheral support. ■



Hitachi Data Systems Profile

Correction: There was an error in Hitachi's revenue figures on the graph on page two of last month's Service Update. The revenue figures are in billions of dollars, not millions. INPUT apologises to Hitachi Data Systems for this error and for any misunderstanding this has caused. ■

Snippets

- ❖ Comparex Informationssysteme GmbH saw its net profits decline by 33% in 1989, giving a net margin of 3%. Comparex, based in Mannheim, Germany, is owned by BASF and Siemens. Last year it was involved in an unsuccessful bid to merge its business with NAS' (now HDS) European operations. Around 16% of Comparex' 1989 revenues of \$1,806 million were derived from maintenance and service.
- ❖ TRW, owner of one of the longest established independent maintenance businesses in the U.S., has decided that it wants to sell off the business. Potential bidders include Bell Atlantic and NCR Corp.
- ❖ Datasolve U.K. has won a \$12 million systems operations contract with the Cambridge County Council.
- ❖ A new cabling company has been launched: Case Cabling, a subsidiary of Case Communications Ltd. It will specialise in an unshielded twisted-pair system, CTSE (Communications Transport System, Europe, a European version of AT&T's premises distribution system). Case Cabling anticipates that most of its clients will be companies that are moving premises or undergoing major refurbishment, and some property developers. Installation in the U.K. will be carried out by Case Cabling and distributors that have obtained a franchise. On the Continent, it will be installed by the franchise holders.
- ❖ MBS plc has acquired VISIsystems Ltd. of Sutton, Surrey, a professional services company specialising in installing computer systems for franchised motor dealerships and petrol forecourts. MBS plc is now an independent maintenance company, following the management buyout of its sales and distribution organisation.
- ❖ Sherwood Computer Management, based in Gloucester, U.K., is expanding its disaster recovery services. It supports Digital, IBM, and UNIX on Pyramid and Sequent, and offers cold and hot restart. It has recently set up a new standby centre in Leeds. Sherwood also offers a range of consultancy services aimed at reducing the risk of disasters.
- ❖ Kode International plc, based in Swindon, U.K., is concentrating its efforts on computer maintenance, having just sold the computer and peripherals distribution arm to Comart. The new company will trade as Comart Systems Ltd. Kode will continue its business in printed circuit boards under Kam Circuits.
- ❖ British Olivetti's customer support group has won a third-party service contract for the installation and maintenance of point-of-sale terminals for the Midland Bank.
- ❖ Bell Atlantic Enterprise's Electronic Service Specialists Ltd. announced that it was adding selected Sun, AT&T and Fujitsu equipment to diversify repair offerings from the traditional DEC offering. Depot repair services will be provided for the Sun 350 and 360 desktop workstations, the AT&T 3b20 Model II, and the Fujitsu Eagle M2351A and Super Eagle M2361A hard disk drives. This decision supports the effort to better serve ESS customers who have equipment installed from a variety of manufacturers.

About INPUT

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Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, and systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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INPUT[®]

Service Update

Route:

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IN THIS ISSUE:

- 1 Bell Atlantic Business Systems Services[®]
- 5 Unisys Announces New Services
- 7 Snippets

Bell Atlantic Business Systems Services[®], the Supplier of Sorbus[®] Services

“We’re More Than Just Talk”

Bell Atlantic Corporation, communications giant and parent of Sorbus[®] since 1985, lives up to this motto through its diverse set of business units. The expansion of its unregulated companies has been a high priority of Bell Atlantic in the 1980s, and under the Communications and Related Services segment of its operations, Bell Atlantic Customer Services has taken a priority role in this growth. The operations under Customer Services include a number of independently operating companies, such as Camex-CPX, Inc., Electronic Service Specialists, and, by far the

largest service unit among them, Bell Atlantic Business Systems Services[®] (formerly Sorbus[®] Inc).

Bell Atlantic Business Systems Services[®]— The Company

The purchase of Sorbus[®] by Bell Atlantic five years ago started a chain of significant events in Sorbus[®] development. Since the acquisition, Sorbus[®] has moved to the forefront of the TPM market-place, surpassing the long-time third-party leader TRW soon after its acquisition by Bell Atlantic. Sorbus[®] has been a significant driver of the market consolidation that has changed the face of third-party competition over the past

decade. Bell Atlantic's recent purchase of Control Data Corporation's Third-Party Maintenance Division for its Sorbus subsidiary has been its most significant acquisition yet.

In January 1990, Bell Atlantic announced the completion of the purchase of the third-party operations of Control Data Corporation. CDC's Third-Party Maintenance Division, having estimated revenues of over \$100 million in 1989, was melded into Sorbus[®] operation during the first quarter of 1990. INPUT estimates that the revenue of the former Sorbus[®] portion of the new Business Systems Services operation was about \$180 million in 1989. The merger of the two former

Continued on next page

Bell...from page 1

Service at a Glance

Exhibit A

Bell Atlantic Business Systems Services®

Major Brands Supported Include

IBM	Diablo	Northstar	Texas Instruments
AT&T	Epson	Okidata	Toshiba
CDC	Hayes	Princeton	Visual
Citizen	Hazeltine	Quadram	Wang
C. Itoh	Iomega	Rodime	DG
Compaq	Kaypro	Seagate	Data Products
DataSouth	Mountain	Tallgrass	Zenith
DEC	NEX	Televideo	Novell
			Emulex

competitors has created the largest TPM organisation in the marketplace to date.

In April 1990, Bell Atlantic announced the name change from Sorbus®, Inc. to Bell Atlantic Business Systems Services®. This name change reflects the expanded coverage that has evolved through

Service Demographics and Delivery

Business Systems Services provides service from more than 200 key locations in the U.S., with additional offices in Canada and Western Europe. The company's 3,200 employees include nearly 1,700 field engineers and technical support personnel.

There are over 60,000 client sites in the U.S. and Canada, representing more than 600,000 units. Through offices in Western Europe, the company supports an additional 20,000 customer sites.

Comprehensive hardware service capabilities include IBM mainframe and minicomputer service, DEC system service, a variety of microcomputer service options on a growing number of products, and remote diagnostics on IBM and DEC systems. Business Systems Services can retrieve system data remotely and receive automatic notification of system problems on IBM 308X, IBM 4300 and selected DEC systems. The company has also developed unique capability based on the IBM "call home" feature of the IBM 3090.

Business Systems Services has developed several unique service programmes based on growing customer demands. These programmes include Direct Access Customer Service (DACS), midrange support programmes (3Xtra SupportSM and DEXtraSM), and disaster recovery services, available through SunGard® Recovery Services, Inc. The DACS

expansion of services and the acquisition of other service providers. Business Systems Services' mission is to become the most comprehensive resource for business systems service. With more than 30 years of experience in the computer industry, the company maintains more IBM and DEC systems than any other third-party maintainer and services over 500 other brands of computer hardware.

programme provides customers with access to Business Systems Services' central dispatch systems from the customer's in-house help desk via a private telecommunications data link, allowing customers to open their own service calls and monitor their progress. Highlighting the 3XtraSM and DEXtraSM support programs is toll-free telephone assistance which offers software support, configuration assistance, performance consulting, and internal networking recommendations. Other services include site planning, installation services, relocation assistance, and access to seven cold-site facilities around the country.

Related operations in Europe, headquartered in Brussels, provide computer maintenance and services in Austria, France, Italy, West Germany, Switzerland, and the United Kingdom. Services are provided by nearly 650 employees in over 40 branch offices throughout Europe. European service capabilities, which vary by country, include computer and communications equipment from over 500 manufacturers, including Amstrad, 3Com, Data General, Dell, DEC, and IBM.

Strategic Focus

As one of the Bell Atlantic family of companies, Bell Atlantic Business Systems Services[®] has been able to weather the poor TPM market conditions of the late 1980s. The healthy acquisition strategy of Bell Atlantic has increased Business Systems Services' expansion into new markets and penetration into current markets.

The addition of CDC's TPM resources to Bell Atlantic Business Systems Services[®] has created a formidable competitor in the third-party maintenance market-place. The resulting organization rivals the resources of some of the leading equipment vendors. Bell Atlantic Business Systems Services' focus on the development of

Exhibit B

Bell Atlantic Business Systems Services[®]

Products Maintained

- Mainframes
- Minicomputers
- Superminis
- Microcomputers
- Peripherals
- Workstations
- Telecommunications
- Modems

extended services and comprehensive training programs for service employees places it in close competition with some of the most comprehensive offerings in the OEM as well as the TPM arenas. All of these efforts support the current mission of the company—to become the single most comprehensive resource for business systems service. ■

Continued on next page

Bell...from page 3

Exhibit C

Bell Atlantic Business Systems Services®

Service Provided

- | | |
|------------------------------|---------------------------|
| • Manufacturer warranty work | • Maintenance |
| • Preventive maintenance | • ECO/FCO (change orders) |
| • Consulting | • Installation/relocation |
| • Fourth-party maintenance | • Refurbishment |
| • Conversion/upgrade | • Disaster recovery |
| | • Software support |

Exhibit D

Bell Atlantic Business Systems Services®

Industries Targeted Include

- | | |
|--------------------------|----------------------|
| • Manufacturing | • Transportation |
| • Utilities | • Medical |
| • Distribution | • Banking/finance |
| • Insurance | • Education |
| • Services | • Federal government |
| • State/local government | • Other |

Unisys Announces New Services in Europe

Unisys Service Programme—USP

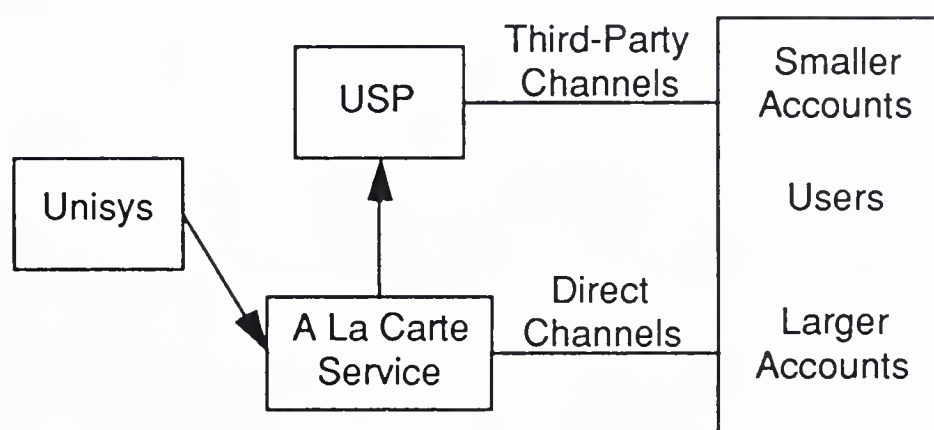
At the end of March this year, Unisys announced the Unisys Service Programme—USP—in Europe. USP is a marketing strategy whose objective is to make the previously announced “A La Carte” service offering available to users who purchase equipment through third-party channels or VARs, as well as those who purchase directly. Exhibit E illustrates the user links involved. In implementing this strategy, Unisys is ensuring that all users of its equipment receive the highest quality of service available, and makes available the option for the VAR to deal with the user or for Unisys to provide service directly.

When discussing this new service strategy with INPUT, Unisys said that “USP is a strategy developed by customer services to support indirect distribution channels in such a way as to meet the demands of a growing market.” A further objective of the USP is to attract large multinational VARs by providing UNIX equipment and Unisys product lines.

The USP has four modules which define the relationship between Unisys and the VAR. Although the four modules have close similarities to the normal A La Carte range of services, the differences need to be clarified. The USP defines four levels of VAR relationship—levels 2000, 3000, 6000

Exhibit E

Unisys USP Service Strategy



and 7000—whereas A La Carte defines four levels of service—levels 200, 300, 600 and 700.

The differences between these four levels of relationship with the VAR are illustrated in Exhibit F.

Exhibit F

USP-VAR Involvement Levels

USP Module	Applicability	Service/Product
2000 ----- 3000	Servicing VARs	VAR cannot use A La Carte name ----- VAR becomes a franchiser VAR provides own label A La Carte service
6000 ----- 7000	Non servicing VARs	Unisys provides full A La Carte services to end user User takes first call ----- Unisys provides full A La Carte services to end user

Continued on next page

*Unisys...from page 5***Four Levels of Relationship**

Details of the composition of each of the four levels of USP are provided in Exhibit G. These levels may be summarised as follows:

- USP 2000 is designed to supplement the VAR's existing service capability by providing expert hotline support plus a time and materials backup service. The VAR invoices the user.
- USP 3000 is designed for VARs who prefer to provide

service to the user through their own service organisation. At this level, the VAR, acting as a franchise, is permitted to sell and deliver Unisys A La Carte contracts under its own name. Unisys provides additional backup support to ensure that service meets Unisys standards. The VAR invoices the users.

- USP 6000 is designed for VARs who want to improve and develop after-sales service quickly, without heavy investment. At this level, direct access to Unisys on-line support systems is provided. However, the VAR is required to provide the first point of contact for

users. After transfer of the first call, Unisys provides full service for all products except for the VAR's value-added application software. All customer and equipment data and customer invoicing is handled by the Unisys Service II call management and information system.

- USP 7000 is designed to free the VAR from the investment needed to provide a quality service. At this level, the VAR is able to offer Unisys A La Carte service contracts providing complete system support for all hardware and software. Unisys becomes the recommended service supplier. The VAR has

Exhibit G

Services USP Allows the VAR to Provide

USP 2000	USP 3000	USP 6000	USP 7000
<ul style="list-style-type: none"> • Own service product to users • Own centralised help desk/telephone service • Own warranty programme 	<ul style="list-style-type: none"> • Own label A La Carte service • Own centralised help desk/telephone service • Own warranty programme • Own system software update/distribution • VAR invoices user 	<ul style="list-style-type: none"> • Unisys A La Carte service to users • Own centralised help desk/telephone service • Unisys warranty • Comprehensive range of Unisys services including: <ul style="list-style-type: none"> - On-site diagnostics - On-line support - Call management - Software updates - Service parts and logistics • Unisys invoices user 	<ul style="list-style-type: none"> • Full Unisys A La Carte services to users • Unisys centralised telephone and help desk service • Unisys warranty • Comprehensive range of Unisys services including: <ul style="list-style-type: none"> - On-site diagnostics - On-line support - Full call management - Software updates - Service parts and logistics • Unisys invoices user

access to real-time, on-line records of all end-user service information.

At all levels of the USP, the VAR has the opportunity to gain extra revenue through the sale of:

- Unisys/own label computer supplies
- Unisys environmental services
- Unisys network services
- Unisys installation services

Unisys also provides training for the VAR, the level of which is dependent on the level of USP chosen. Unisys is committed to ensuring that the VAR achieves the degree of competence commensurate with the level of USP chosen.

Likely Developments of the USP Strategy

Following the initial launch of the Unisys Service Programme, Unisys visualizes probable future developments of the strategy in one or more of the following areas:

- Productized services
- Continuation and enhancement of added-value services such as environmental and network services
- Extended software support services
- Direct marketing of service, for example telesales and aftercare
- Enhanced service marketing techniques ■

Snippets

- ❖ Focalpoint Engineering, the hardware maintenance contract services division of Tetra, has been acquired by Logitek.
- ❖ Synapse Computer Services plc has made a pretax loss for the six months to 31 January 1990, despite increasing its turnover to £4.7 million. The chairman, Bill Williams, has resigned and the business is now under tighter control from the board. Mr. Williams blamed adverse trading conditions in the U.S. The board believes that Synapse will overcome its problems, although 1990 is likely to be a difficult year.
- ❖ A £2 million contract has been awarded by the Department of Trade and Industry to Trend Datalink Ltd, the network management business of Telemetrix plc. Trend, with two other consortium members Dowty Information Systems and Camtec, is completing the installation of an X.25 data communications network to link all mainland U.K. job centres.
- ❖ Ferrari Holdings plc is now in a position to acquire Pericom plc. Ferrari is primarily interested in Pericom's maintenance business (turnover £7 million), which, when combined with Ferrari's, should give revenues of £20 million this year. Ferrari will sell the rest of the business back to Pericom's chairman, Ron Cragg, and it will trade under Pericom Technology Ltd. Under a three-year agreement, Pericom Technology will recommend that Ferrari Holdings maintain all its products sold in the U.K.
- ❖ British Olivetti has won a £3.4 million contract from Boots the Chemist in the U.K., and has taken over from IBM. Olivetti is said to have won the contract on costs and manufacturer independence. The Customer Service Support Group will maintain a range of PS/2 store controllers and IBM's electronic point-of-sale tills.

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INPUT[®]

Service Update

Route:

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A Publication from INPUT's Customer Service Programme—International

June 1990

IN THIS ISSUE:

- 1CONNECT—Network Services from Unisys
- 6 Questions from the U.S.A.
- 7Snippets

Unisys Launches CONNECT New Network Services

At the end of April 1990, Unisys announced CONNECT in Western Europe. Unisys describes CONNECT as a new and comprehensive range of network products and services, designed to cover every type of specialist network service the user could require. The CONNECT product is based on Novell Netware[™], a software platform which will be sold by Unisys in the LAN market.

Prior to the launch, network services had been embedded in the Environmental Services operation of Unisys' Customer Services division. As part of Environmental Services, Unisys claims that its network service activities had been successful to the point of contributing about 50% of the total revenues of

Environmental Services. As a result of this success, Unisys decided to establish network services as a separate business unit within Customer Services—hence CONNECT.

CONNECT provides bridging between the network products of all major manufacturers and heralds a move by Unisys into the provision of full network services. Exhibit A provides a

“CONNECT—Total Solution Network Service”

The major strategy and product of CONNECT is the provision of open systems cabling based on the concept of twisted pairs. The key to CONNECT lies in an alignment between Environmental Services, intelligent buildings, cabling and networks within Unisys.

model of the CONNECT concept.

Unisys claims that CONNECT provides single solution service to satisfy user needs ranging from planning to installation, including ongoing support, monitoring and upgrading;

Continued on next page

CONNECT...from page 1

Exhibit A

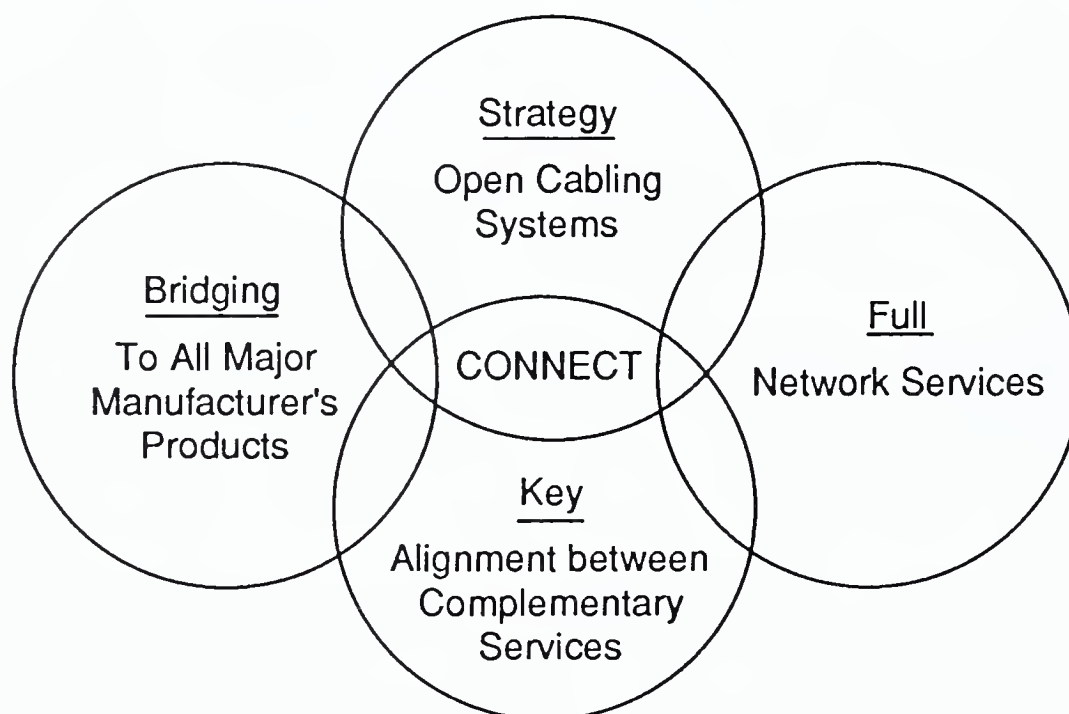
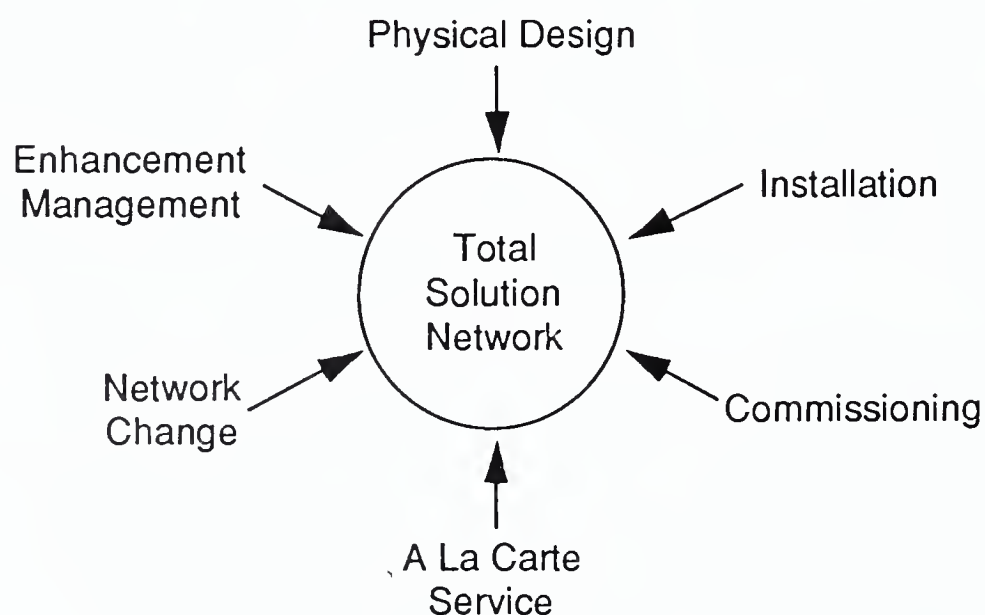
Unisys CONNECT

Exhibit B

Unisys CONNECT—Six Key Services

CONNECT provides everything from single products to high-level management and integrated turnkey solutions.

CONNECT is intended to complement the specialist consultancy skills of the Unisys Professional Services Division and Complex Systems Organisation. The services available are illustrated in Exhibit B and are summarised in the following descriptions:

1. Physical Design

This service is intended to assist the user in achieving optimum design of the network by providing consultants to work alongside the user. The concept is to assist the user in the paper

planning stage to arrive at a preferred solution which takes into account the latest technology, structure and location of buildings, optimisation of links between computers and future user business plans. Exhibit C lists the services and technologies involved in the physical design phase.

In addition, Unisys works with the user on a consultancy basis to design information systems that support the user's business needs and objectives. The aim is to provide a complete network blueprint for the necessary cabling and building work, which can then be carried out by the Unisys Network Installation Service.

2. Network Installation

Unisys provides full expertise on site for complete project management and quality control at every stage of installation. Unisys consultants analyse the correct methods of trunking, taking into account the structure of different parts of the user's building. In the case of a WAN installation, Unisys provides expertise at each site, to effect smooth and coordinated installation across the whole network. This includes monitoring for environmental protection and cosmetically acceptable installation. Exhibit D lists the services and technologies involved at the installation phase.

Exhibit C

Physical Design Stage

- LAN/WAN/broadband
- Data/voice PABX/ISDN/FDDI
- Consultancy
 - Advise on topology
 - Connection methodology
 - Tariffs
 - Procurement management

Exhibit D

Installation Phase

- Unisys open cabling system
- LAN/WAN/broadband
- ISDN/PABX/FDDI
- Project management

Continued on next page

CONNECT ...from page 3**3. Network Commissioning**

At the commissioning phase, Unisys will accept full responsibility for project management, while the user

the work they do stage by stage, testing for faults and overseeing each aspect of the total commissioning phase. This includes the handling of any problems in interfacing with the PTT. The services and technologies involved in the commissioning phase are listed in Exhibit E.

4. A La Carte Network Service

As part of the strategy to provide total solution networks, Unisys offers A La Carte Network Services, which it describes as a complete solution for network maintenance and support. A La Carte is designed so that one simple contract can be used to cover the whole system by providing a complete menu of network services. From this menu, the user can select the exact level of support required to suit the needs of the user's business. The type of service available under A La Carte ranges from telephone support to full on-site support, tailored to match the criticality of the user's system.

Exhibit E

Commissioning Phase

- Project management
- Testing units
- Stage proving products
- Certified network engineers
- User training

retains management control. Unisys consultants will monitor and test each step of the commissioning, and all experienced Unisys network engineers are fully trained and certified by Novell™ to work with the Netware™ product. Unisys will deal with the subcontractors on behalf of the user, checking and guaranteeing

5. Network Change

The concept of the Network Change service is to ensure sufficient flexibility of the network, so as to keep pace with the changing needs of the user's business and organisation. Unisys personnel will oversee and organise any changes or

expansion required by the network. This service ranges from one project to constant reviews, and from specific redesign to full forward planning. Unisys claims that this service can protect the user from the high cost of uncontrolled proliferation of cabling and equipment by keeping the network under review to ensure optimum efficiency. The services and technologies involved in this service are listed in Exhibit F.

6. Network Enhanced Management

The objective of these services, available as part of the Unisys total network solution concept, is to enable optimisation of the network and maximisation of the user's computer resources. In the application of these services, Unisys claims that the user can improve the cost-effectiveness of the network through: usage monitoring, identification of areas of system redundancy, and checking the uncontrolled proliferation of duplicated resources. The elements of these services can be summarised as follows:

- **Network Audit:** regular analysis and review to check the costs of redundancy or proliferation.
- **Network Optimisation:** measuring and monitoring to identify and improve underperformance or sections under strain.

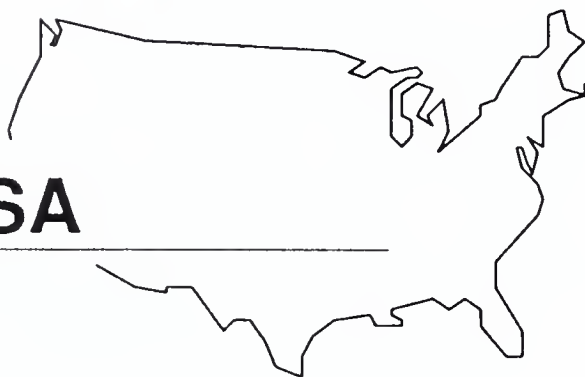
Exhibit F

Network Change

- Moving people
- Moving locations
- Additional people
- Additional locations
- Cable management
- Unisys open cabling system
- Network integration

- **Network Streamlining:** cutting costs by removing unnecessary equipment or inefficient cabling.
- **Network Integration:** developing links with other systems.
- **Network Software Management:** keeping the user's software up to date and in step with other software in the user's organisation.
- **Network Security:** protecting the user's network from physical damage or unauthorised use through cabling or PTT lines.
- **Network Expansion:** major review to meet new capacity requirements. ■

Questions from the USA



The following are some of the questions posed to the U.S. hotline over the last month. The questions and their answers may be of general interest to all INPUT Customer Service clients.

Question: Does DEC offer disaster recovery services? If so, what do they cover?

Answer: DEC offers three components to their disaster recovery services. These components are:

Restart: this service provides access to a "hot site" within hours of disaster notification. The site is fully equipped with equipment to resume processing and personnel to assist up to 24 hours per day, seven days per week. Periodic testing of the recovery of critical applications is also available with technical staff to assist.

Recover-All: this supplement to the DEC Field Service agreement guarantees the restoration of computer

operations after damages caused by environmental or accidental occurrences. This component takes over where the on-site Field Service agreement leaves off, after mechanical and component failures.

Recovery Planning Services: this set of services offers a comprehensive planning methodology designed to help companies develop a disaster recovery contingency plan. Consultants with recovery planning experience assist the company in planning for the event of the computer facility being inoperative for an extended period of time.

Question: Can a customer purchase DEC Direct Access Advisory Services if they have only DEC personal computers installed, or must it be a multivendor environment?

Answer: The DEC Direct Access Advisory Service does not apply to installations of only personal computers. It does not matter if the installation is DEC only, or multivendor.

Question: Is the Surety program the only program Unisys has that covers software?

Answer: Software Excel Basic does not cover minicomputer software. Coverage is available under the program "System Extra," which is similar to Excel Basic, but not as comprehensive. ■

Snippets

- ❖ It was recently announced that TRW, Inc. has placed its Customer Service Division, headquartered in Fairfield, NJ up for sale. This move is a result of the company's strengthening focus on its main lines of business. TRW is still actively involved in the provision of customer service support and is continuing to increase its business.
- ❖ Granada Computer Services International Ltd. has recently acquired a New Jersey company, Essex Computer Service Inc., a specialist in Data General machines. Granada now has 16 sites in the U.S.
- ❖ In contrast to the recent spate of mergers and acquisitions, Advance Technology Maintenance has preferred to remain small and stable. ATM has no immediate plans for expansion, preferring instead to direct its efforts towards the changes in the marketplace. ATM has around 100 employees and a turnover of about \$11 million. Its size does not mean that it cannot take on corporate clients, however; one of its clients is British Petroleum.

ATM has also recently been signed up by NEC as its approved maintenance supplier.
- ❖ ICL is now in a position to offer disaster recovery services for ICL mainframe users. There are already around 8 companies offering ICL disaster recovery services, such as Sherwood Computers and NMW Computers, but ICL claims to be able to offer the full range of services from consultancy to restart services. ICL is offering two portfolios: contingency management and recovery management. There are plans to extend the service to cover its UNIX machines by the end of the year.
- ❖ Tesco Foodstores Ltd, a British supermarket chain, has upgraded its computer to an Amdahl 5990-1400 mainframe. This is to provide additional computing facility and to handle its disaster recovery programme. The machine handles warehousing applications, financial programming and on-line stock control.
- ❖ MBS has acquired the Exchange Telegraph Company Ltd., which has contracted annual maintenance revenues of \$9.5 million. MBS is also merging its engineering operation with that of Extel Information Technology. This will lead to job losses and closure of six Extel and MBS locations. Nearly all the service engineers will be retained, however.
- ❖ Synapse Computer Services plc has won a contract to convert Reuters European Data Centre from DOS/VSE to MVS. The contract is worth \$480,000 and is due to be completed by September this year.
- ❖ AT&T Istel Computer Systems is a new company formed to market UNIX systems, workstations and servers. It will sell through direct and indirect channels.
- ❖ Olivetti's Customer Support Group has been awarded a further independent maintenance contract from Barclay's Bank, worth \$4.7 million. The total value of Barclay's account with Olivetti is now around \$27 million a year. This new contract includes responsibility for over 2,000 cash dispensers, installation of more workstations, and provision of a team to address network faults.
- ❖ Getronic Service, a Dutch independent maintenance company, has a five-year agreement to take on the repairs of the Mita Europe.
- ❖ Sorbus has beaten IBM to win a contract to maintain Sun Alliances's IBM equipment.

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Service Update

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Philips Information and Communication Systems (ICS)

NV Philips is a multinational company with national organisations in over 60 countries, which are generally wholly owned subsidiaries. It employs some 300,000 people worldwide and its revenues approach \$30 billion. Among NV Philips' major businesses are:

- Consumer electronics
- Professional products and systems
- Components
- Lighting
- Domestic appliances

Over 60% of NV Philips' revenues come from Europe and 22% come from North America. In 1989, Philips reported sales of over 57 billion Dutch guilders. In 1988, it ranked fifth among the top fifteen electronics companies in the world.

Philips Group policy decisions are made by the Group Management Committee, which is made up of the board of management of NV Philips and a number of executives from product divisions and corporate staff departments.

Philips Customer Service Business Group

Philips Information and Communication Systems (ICS) is part of the Professional Products and Systems Division, with product lines such as PABXs, modems, telephony equipment and PCs. The Customer Service Business Group is part of the Information Systems Group and is responsible for providing service for 8 different product groups:

Continued on next page

Philips...from page 1

- Data systems
- PCs
- Business communications
- Radio communications
- Data communications
- Optical storage
- Public and rural telephony
- Dictation systems

The breakdown of ICS' revenues is provided in Exhibit A.

Expertise

The focus of the customer service groups is very much on open systems, with skills in UNIX, MS-DOS, and PS2. The customer services organisation is part of X-Open. Philips Customer Services believes that a major strength of the organisation is its ability to provide an integrated service, whether the customer is operating on voice or data.

Exhibit A

Philips Information and Communications Systems

Total revenues (worldwide)	\$ 3,160 million
Customer services revenues (worldwide)	\$ 520 million
Customer services personnel	5,700
Service productivity	\$91,000/person

Philips has expertise on a wide range of equipment as part of its standard portfolio. Philips will normally service other manufacturers' equipment if asked to do so by a client. This type of support includes the network, systems software, cabling, voice and data cabling. Philips would also consider servicing the equipment of a potential client in one of Philips' target industries (finance, travel, transport and insurance), using service to leverage hardware sales.

Philips' Customer Service Business Group offers a range of other services such as network management, including management of cross-border networks. Philips is investigating the systems integration market, but would only consider entering selective markets as a member of a partnership.

In the finance market, Philips offers disaster recovery services, and claims to be able to provide mobile vans within 24 hours to any location in Europe.

Around 70% of ICS' revenues are generated in Europe. The remaining 30% come mainly from the U.S., Canada, the Far East/Pacific and the Middle East.

Exhibit B gives a breakdown of Philips' European Customer Services revenues for 1989.

Exhibit C: Philips Customer Services - ICS Organisation

Service is sold to Philips' clients partly by a team dedicated to service sales, and partly by the product sales force. The dedicated team sells added value to the client, such as life cycle management and other additional services. The product sales team must sell service as part of their quotas.

Exhibit E shows a typical set-up of a national customer service organisation.

Philips' Engineers

Philips views the customer engineer very much as the ambassador of the customer service organisation, representing Philips in regular contacts with the customer. To a large extent, the engineer determines the degree of satisfaction of the customer base.

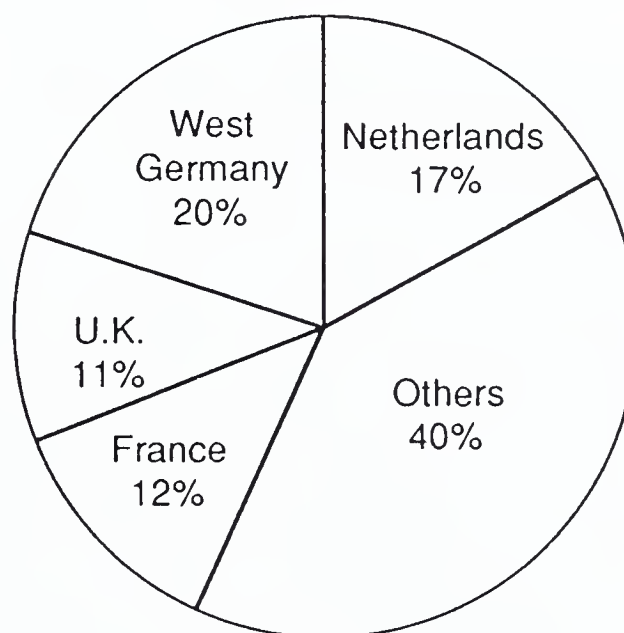
When recruiting engineers, the Customer Service Business Group is looking for two groups of people. Firstly, people who can communicate well. Service engineering is becoming far less skill-dependent as emphasis shifts towards replacing parts rather than repairing them. However, Philips also recognises the need for highly skilled specialists at its national support centres. In general, excellent customer liaison skills are regarded as the most important criteria. Engineers have successfully been recruited from sales forces and banks, for example, and retrained in engineering skills.

Service-Related Products

The Integrated Services Information System (ISIS) has

Exhibit B

Philips Customer Services 1989 European Revenue Split



been implemented in a large number of customer service organisations. It helps the customer service group control the daily operation and provides valuable information on performance management. This product was developed internally in the late 1970s in Philips' Corporate Centre. It was then packaged and sold commercially to clients such as Philips' distributors. A new product developed by Philips is Ambassador, an interactive video on customer care training.

Continued on next page

Exhibit C

Philips Customer Services ICS Organisation



Philips' Customers

Philips has such a wide range of products, ranging from dictation machines to minis and PABXs, that different groups of clients have different requirements.

The three client groups defined by Philips are shown in Exhibit F.

For the first group—major accounts—the main customer requirement is for 100% systems availability, with fast response times, performance management and no breakdowns. These clients are less inclined to require total support, as they want to retain control of the system and they often have the necessary skills in-house.

Clients in the second group are very often highly dependent on their systems, using them to run their businesses. Typically, such clients have their own operations staff, but no experts in-house to cope with failures. These clients need a generalised support package, with good telephone support. One hundred percent systems availability and fast response times are not such important issues.

At the personal level, quality of service is more important in distinguishing one dealer from another.

Philips aims to give a fast response—within 2 hours, anywhere in Europe. This means that its engineers must be capable of servicing a range of products.

Competition is increasing for these large accounts. David Stubbs, Customer Services International Marketing Director, believes that when the Single European Act comes into force, pricing will be forced

Exhibit D

Philips' Customer Service Mission:

“Establish market leadership with integrated quality support services in information technology and communications to meet the needs of Philips customers, creating a long-term business relationship.”

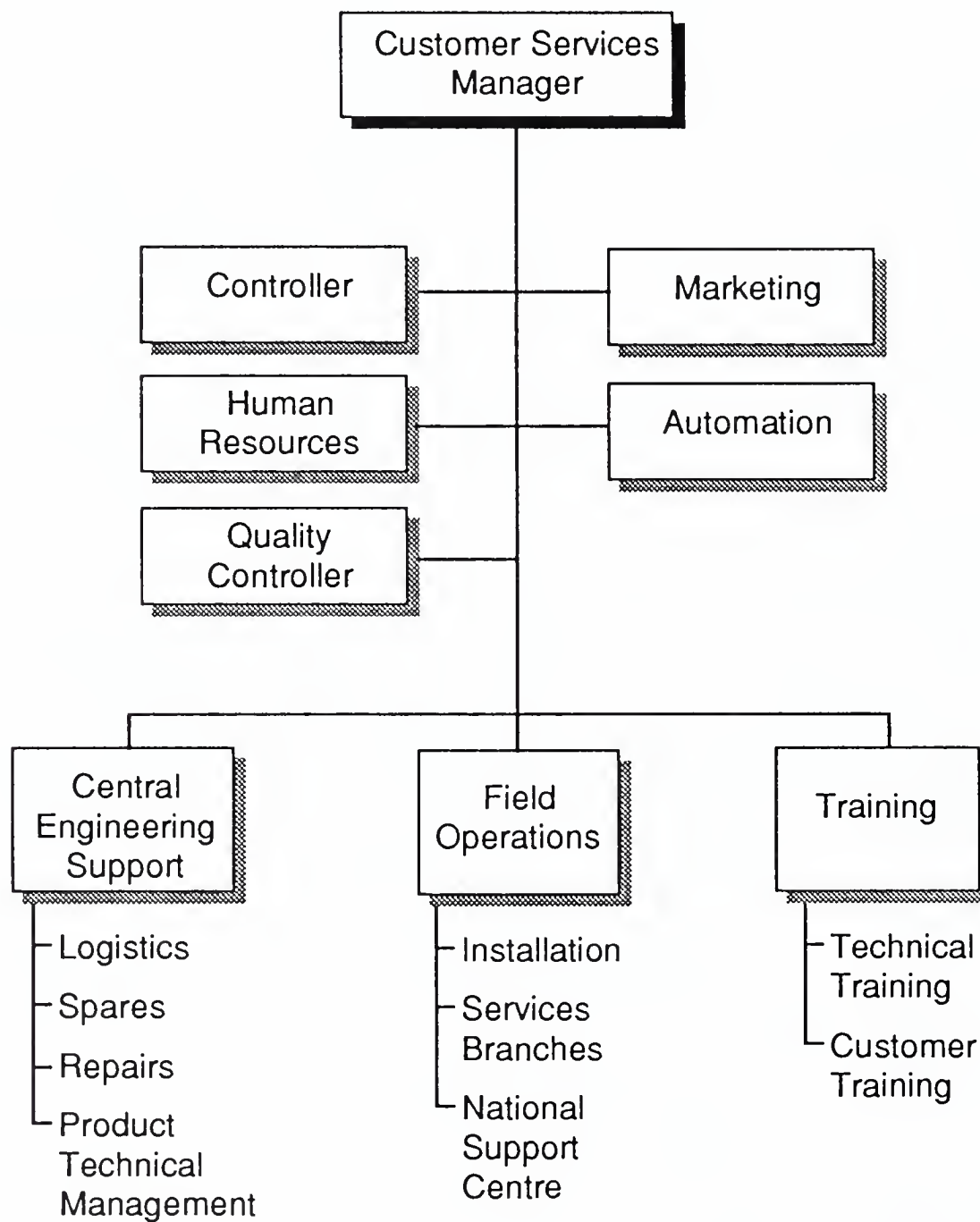
down and competition will increase even further. David Stubbs believes that service organisations will have to change their emphasis away from hardware support to professional services in order to maintain their revenues.

However, Philips believes that the single European market will create new opportunities; for example, deregulation in the communications environment will open up opportunities in an area previously dominated by the PTTs.

Philips...from page 5

Exhibit E

National Customer Service Organisation Basic Setup



Philips' View of 1992

Philips believes that any changes brought about by the Single European Act will probably be relatively slow to develop. Full implementation of all the initiatives could take until the next generation.

Philips also believes that more European companies will merge to form larger and stronger entities. From a customer service viewpoint, Philips sees that there will be a move to offer uniform service pricing across country borders. However, there are great differences in the costs involved in each country; for example it can cost four times as much for a field engineer in Sweden than for one in Portugal.

The 1990s

NV Philips' customer service organisation sees the coming decade as a challenging one. It believes that it is under threat from the trend towards lower maintenance pricing and declining revenues, and also from the major equipment manufacturers who are now providing multivendor services. NV Philips sees a further potential difficulty in converting customers, who are currently accustomed to relatively long warranties, to an ongoing fee-based service relationship.

However, Philips believes that there are also plenty of opportunities for expansion, such as increasing its software support portfolio and developing a professional services portfolio. NV Philips

also believes that there is an opportunity to enter the multivendor service business to handle non-Philips service requirements for major accounts. Another possible way forward is to offer more fee-based training programmes for dealers and other independent sales organisations.

Exhibit G shows the anticipated changes that will occur in Philips' support revenue mix. ■

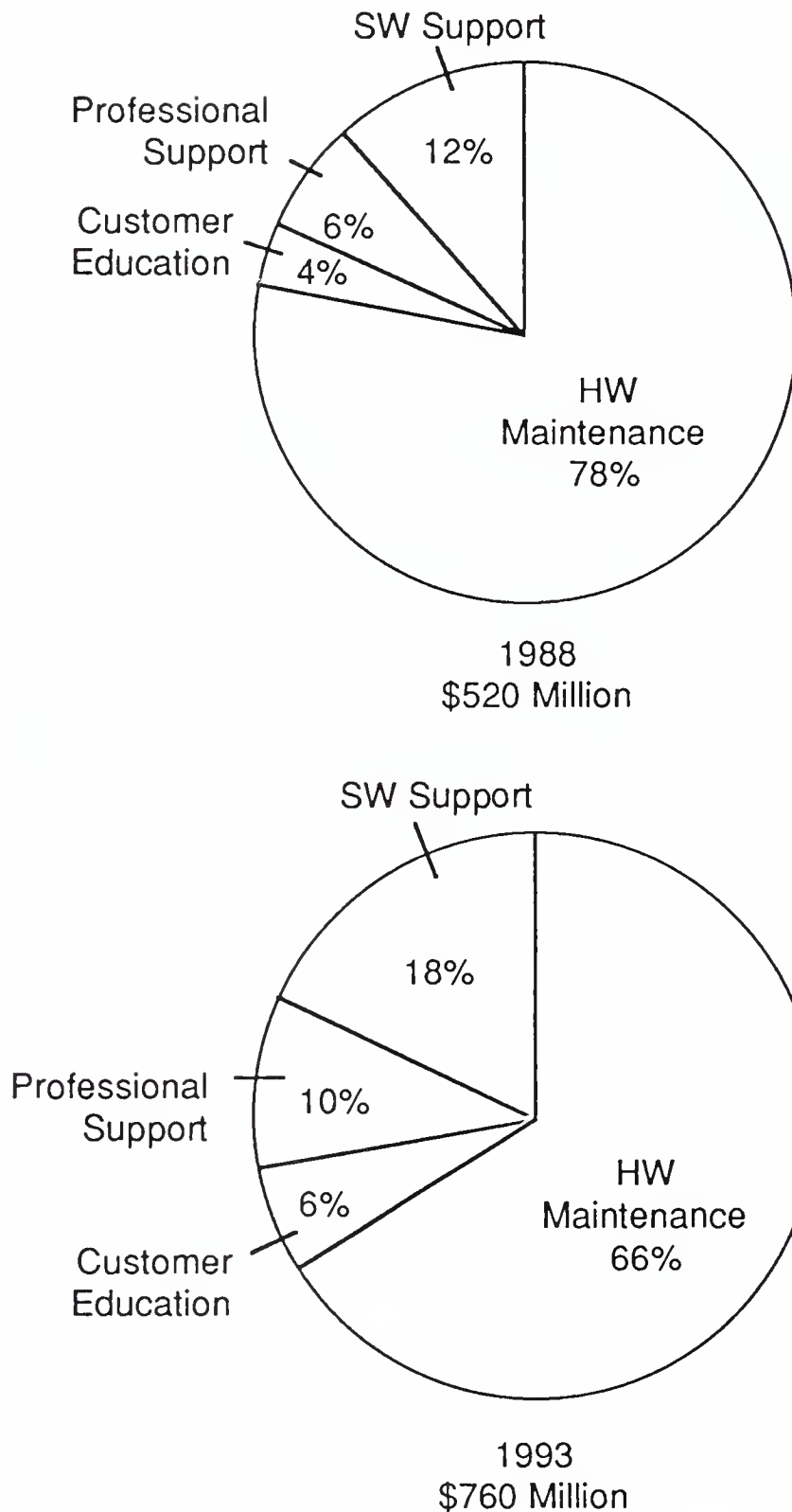
Exhibit F

Philips Account Definition

- Major accounts—1000+ employees
- Medium accounts—100 - 500 employees
- Personal-level equipment user
 - Sold via channels

Exhibit G

Change in Mix in Philips ICS Support Revenues



Telub Is for Sale

F V is in the process of restructuring and plans to sell off its Telub Data/Datagallerian computer operations. This will affect some 715 employees in around 10 wholly owned and associate companies, with a turnover close to SK 800 (\$125m).

The president and CEO Bo Södersten explained that as the nature of computer operations is different from the company's other activities, it is seeking buyers who will be able to make the appropriate investments.

Negotiations are currently underway with a consortium led by AB Swedia Corporate Finance.

Telub Data comprises companies active in consultancy, product sales, technical service and independent maintenance. The president of Telub Data/Datagallerian, Gündor Rentsch, believes that the planned change of ownership will increase the company's opportunities play an active role in the current restructuring of the computer market. ■

News from



the U.S.

Digital Equipment Corporation Announces Single-Source Disaster Recovery Solution

On June 25, Digital Equipment announced enhancements to its disaster recovery services, which will provide customers with a single-source total solution for anticipating, managing, and recovering from disasters. The new service enhancements include:

- Eleven Business Recovery Centers (BRCs) across the U.S. providing round-the-clock access to backup office space.
- A new Chicago area hot site, providing a backup computer facility in addition to the facility in Parsippany, NJ.
- Total Recovery Planning System (TRPS), a PC-based software package to assist customers in the development and maintenance of disaster recovery plans.

The eleven BRCs are networked with each other as well as to the hot sites, to allow customers to work from local BRCs in the event of a disaster rather than having to travel to the hot site. The BRCs are equipped with terminals, workstations, printers, and telephones.

The Total Recovery Planning System software offers a comprehensive plan to develop custom disaster recovery plans or use the pre-formatted reports included. Key features of the

software include a detailed action plan, recovery teams and call lists, vendor information, equipment inventories and damage assessment lists, system software information, and company and personnel information. The detailed methodology addresses the complete disaster recovery planning process, including the topics of organizing the planning process, establishing ground rules and assumptions, conducting disaster recovery scenarios, maintaining the plan, testing the plan, and assessing the impact of loss.

These new features are an addition to the existing Digital portfolio of disaster recovery services which include RESTART hot site access, Recover-all on-site maintenance supplement, a complete line of environmental products, and security and training services.

Question from U.S. Clients

On the subject of disaster recovery, the following question was asked by one of INPUT's U.S. clients:

Q. Who is XL/Datacomp and what disaster recovery services are available?

A. XL/Datacomp, Inc. was established in 1979 and currently has offices throughout the U.S. It has been a public company since 1985. It is one of the largest third-party IBM sales and service companies for midrange systems. XL/Datacomp offers three types of disaster recovery sites:

- Hot sites located in Anaheim (CA), Irving (TX), Kansas City, Chicago, Atlanta, and Springfield (NJ). Sites at Menlo Park and Philadelphia offer AS/400s only. Sites in Kansas City and Atlanta offer System 38s only.
- Warm sites in Detroit, Charlotte (NC), Tampa (FL), Columbia (MD), and Columbus (OH) offer data entry, printers, and communication facilities.
- Cold sites in Anaheim, Chicago, Irving, and

Springfield provide power and space for additional systems.

IBM Announcement Redefines Focus of Customer Service Today

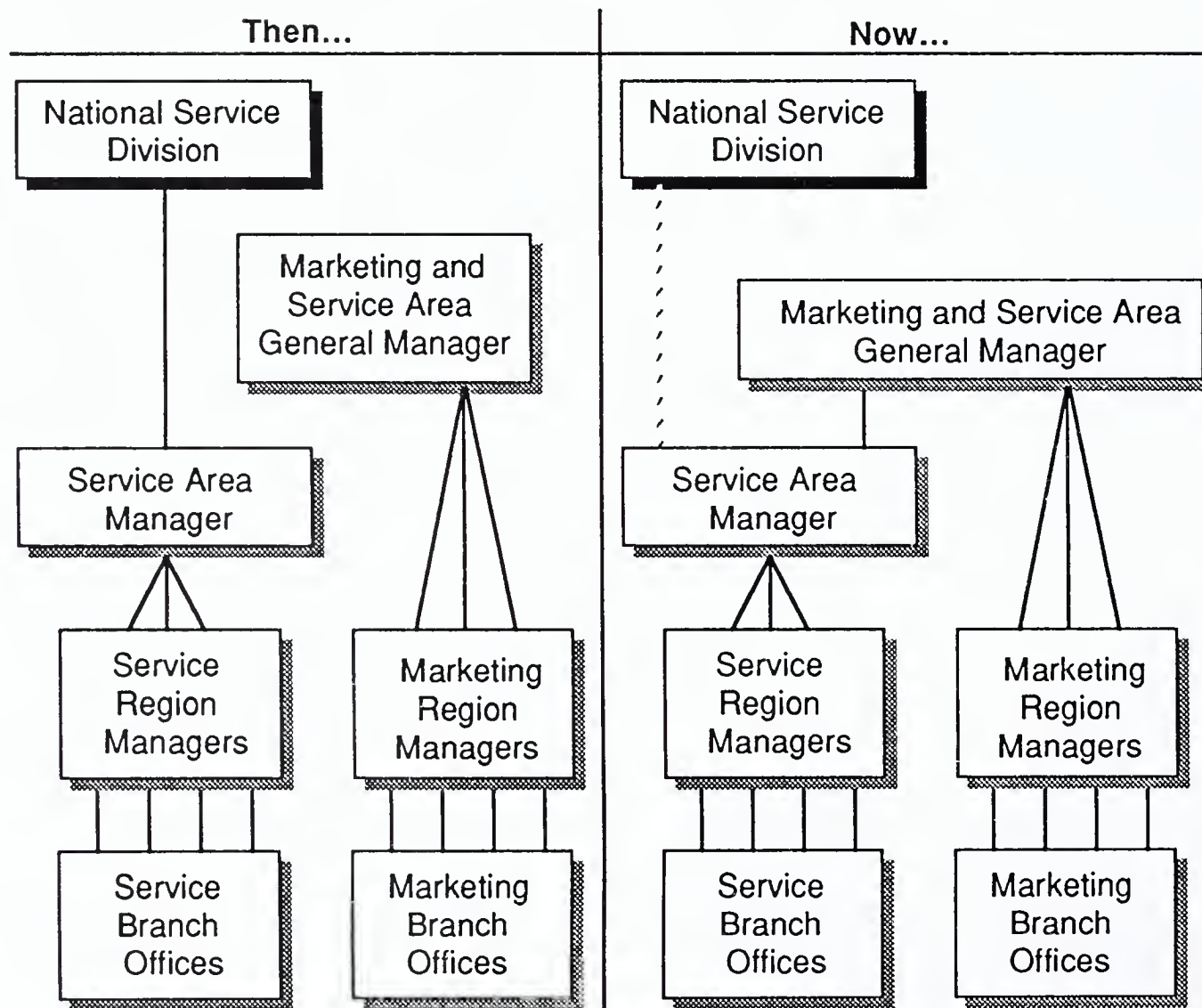
On June 20, IBM announced changes in the internal reporting structure of its customer service function. The area customer service managers now report directly to the Marketing and Services General Managers in the geographic locations rather

than to National Service Division (NSD) headquarters. This change places responsibility for the delivery and management of customer service in the hands of the geographic organizations. The move further positions and emphasizes the responsibility of the IBM field staff to more effectively respond to new demands for service and capitalizes on the demand for an expanded full range of customer service offerings.

Exhibit H illustrates the new structure. ■

Exhibit H

New IBM Customer Service Focus



Snippets

- ❖ MBS Engineering, a British independent maintenance company, has changed its name to Firstpoint.
- ❖ Sixty-seven percent of Paris-based CPG SA and Conseil Assistance Electronique SA has been bought by Systems Reliability plc. CPG offers transportation and storage services for mainframes.
- ❖ Texas Instruments Incorporated has opened an office in Budapest, Hungary, to serve parts of Central and Eastern Europe. Its role will be as an information and technical liaison centre.
- ❖ Bell Atlantic Business Systems Services (formally Sorbus) has won a contract from Sun Microsystems Inc. to provide hardware maintenance for Sun's Eastern U.S. customers.
- ❖ An agreement has been made between Thorn EMI Computeraid and Apple Computer to enable Computeraid to become a supplier of third party maintenance for Apple products. Support will be provided from 11 service centres across the U.K.
- ❖ Thorn EMI Computeraid has acquired the rental assets of CCA Microrentals, which went into receivership in February. Microrentals deals in the short-term rental of IBM, Compaq and Apple computers.
- ❖ CE-Tech plc, based in Hounslow, Middlesex, has been taken into receivership and is now for sale. CE-Tech is a computer sales and services company with a turnover of around £5 million per annum.
- ❖ IBM Germany has launched a recycling programme whereby it will take back old unwanted IBM computers and electronic calculators. IBM believes that 85% of the parts are recyclable. Customers are charged for the service.
- ❖ Amstrad UK is reorganising its spare parts operation. A new facility is being set up at Amstrad's Stafford location and will be known as Amstrad Spares.
- ❖ A new division of Bell Atlantic Computer Services Inc. has been created: Bell Atlantic Computer Technology Services Inc. (CTS). This new division is an amalgamation of Bell's three repair, refurbishment and logistic support services. It now claims to be the largest such company in the U.S.
- ❖ In the U.S. on 19 June, IBM announced both increased and decreased prices to customers for maintenance agreement service and warranty option charges. These changes apply to machines, models and features of selected IBM and non-IBM products. Price decreases that apply range from 3% to 20%, and price increases range from 5% to 25%. The changes become effective for billing periods starting on or after October 1, 1990.
- ❖ McDonnell Douglas Field Service Company (MDFSCO) announced the new Business Partnering service option at DEXPO East 90, offering more flexible services and a value-added service solution. Through this option, MDFSCO provides service to customers on behalf of OEMs and resellers, freeing them to concentrate on the manufacture and distribution of products.

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INPUT[®] Service Update

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CUC—Offering Clients Continuity in Their Business Operations

CUC (Computer Uitwijk Centrum BV) is a disaster recovery company, based in Lelystad in the Netherlands. CUC was founded in 1981 and is part of Adia with Meridian International, which owns a majority shareholding. Adia is the world's second largest business services group. Other shareholders are KLM (Royal Dutch Airlines) and Nederlandsche Middenstands Postbank.

The company's mission is "to deliver quality computer continuity services and facilities." In the event of a disaster, CUC's clients can switch over to CUC's facilities, which are available 24 hours a day all year round.

CUC has had experience in handling real-life disasters—so far over ten, of varying severity, have been dealt with. In CUC's experience, most disasters are caused by mechanical problems, such as faulty air-conditioning, power supplies or other building problems.

The company was initially set up by a consortium of users, and its first contract (for an IBM mainframe configuration) was awarded in 1983. Exhibit A shows how CUC developed its business during the 1980s.

CUC Facilities

The disaster recovery facilities are housed in a special purpose-built building constructed in

Lelystad after an in-depth analysis was carried out to assess its suitability. As part of the security of the facility, the building is not in any flight paths, is situated away from any potential hazards and is surrounded by water, making access by intruders more difficult. It is constructed on reclaimed land, but in an area in which danger from flooding is nonexistent. In the event of an emergency, CUC has an arrangement with the local police whereby access to the site can be cut off completely within 20 minutes.

CUC claims to be the only independent professional disaster recovery company in Europe that is solely dedicated

Continued on next page

CUC...from page 1

to that one service. All other competitors are involved in other services, such as maintenance, equipment manufacture and professional services. CUC believes that this specialisation gives it a competitive advantage—all its resources are devoted to providing comprehensive disaster recovery services for its clients. CUC is also independent of any supplier.

Sales Cycle

The sales cycle obviously varies from customer to customer, but broadly, CUC creates awareness of its services and then identifies the executive decision makers in the client company. There is usually more than one decision maker and now there is a growing tendency for this type of decision to be made at board level, not just in the DP department.

Exhibit A

CUC Development

1983	CUC wins first IBM mainframe contract
1984	Support for IBM midrange systems
1987	100 Customers, 40 staff, CUC breaks even
1988	Support for DEC and HP equipment + DG
1989	Investment in IBM 3090-600E and AS/400
1990	Ministry of Defence becomes 180th customer

Time is spent understanding the clients' criteria, priorities and requirements, and then CUC presents a disaster recovery solution. The disaster recovery proposal is always developed with the client, and the client always makes an appointment to view CUC's facilities.

All CUC's clients have to pass a security audit to ensure that the risk of a disaster occurring is minimised. For example, clients' backup procedures are reviewed, air conditioning is checked, the building is assessed with regard to danger from local hazards (flight paths, factory emissions, roads) and fire-proofing and fire-fighting equipment is checked. If the client fails this audit and the problem cannot be resolved, CUC will decline to accept the client, as would an insurer.

Price varies greatly from client to client, so it is difficult to give guidelines. CUC believes that many clients are surprised by the costs—they are lower than expected. Price is negotiated individually with each client company and varies with a number of factors, such as speed of recovery time, amount and frequency of data recovered,

CUC now has around 200 clients—mainly in the Netherlands, but also some in Belgium and Germany—and plans to extend its client base to the rest of Europe. CUC's facilities are extensive—CUC will provide clients with the necessary hardware configuration, including printers and other peripheral devices, to enable the client to continue its day-to-day business operations. Interestingly, CUC uses 25% of the power supplied to the city of Lelystad.

The capability available to clients in terms of computing power, storage and communications is listed in Exhibit B.

amount of testing required and any enhanced services required. Clients often judge the price by expressing it as a percentage of their annual turnover; acceptable limits vary from company to company. CUC believes that its service is competitive and offers good value for money—clients are taking advantage of a shared resource facility.

The plans are then acceptance-tested with the customer. The plan includes manuals with set validated procedures and named individuals responsible for carrying out the plan. The plans, once accepted, must be tested regularly and named individuals updated as necessary. Some clients test as often as every ten weeks, some test twice a year. Other clients test various modules of the plan frequently and perform the complete test less often.

Range of Service

The service that CUC offers is always tailored to each customer. CUC has a range of options available, and customers normally take a mixture. Typically, in the event of a disaster, the customers' configuration can be reproduced within the specified time frame at CUC. For some clients, this time is two hours; for others the next day may suffice. In addition to the system, CUC also makes available office space, with furniture, telephone and fax machines, and a catering service. There are also print rooms with equipment available for carrying out mailings and invoicing.

Clients can use the disaster recovery centre in a number of ways. In the event of a disaster, the client's business can be operational in the centre within the time frame specified in the contract. If the disaster is such that the company cannot move its operations back to its own premises within the specified time frame, then a company can move into an 'empty shell'. This is where CUC provides an empty computer room and the company provides its own hardware. This room can be available for up to 18 months.

Clients can also use CUC's facilities when they need to use equipment for testing purposes—for example, to try out a new software package. Also, if

CUC Capability

Computing Power	- 80 MIPS
Storage	- 400 Gigabytes
Communications	- > 7,000 terminals can be supported

the client has an urgent task that would run more efficiently away from the overloaded company computer, employees can arrange to use CUC's facilities.

CUC offers a mobile disaster recovery solution as well, where a disaster recovery system can be relocated anywhere in Europe within 24 hours.

Continued on next page

CUC...from page 3

It is obviously important for a disaster recovery company to have plans in the event of multiple disasters. Although CUC believes that the risk of a multiple disaster is very low, in the event of a conflict there are allocation algorithms which apply. These are negotiated at the time of contract, and each company is aware of what procedures are put into place in the event of such a conflict.

Exhibit C

Directors

- *Henk Geerdink* - responsible for technical support, communications operations and customer services
- *Bert Jaspers* - responsible for product development and management, marketing, sales and public relations
- *Tim McGinn* - has executive powers from the CUC supervisory Board to manage the business. He is also deputy Managing Director of Meridian International.
- *Joop van den Pangaart* - responsible for finance and administration, security and site services

CUC aims to attract clients from elsewhere in Europe, but needs co-operation from the various PTTs so that communications links can be set up.

CUC believes that the security in its buildings gives it a competitive advantage. It is essential to be able to demonstrate to its clients that their data is safe—particularly the banks. Access to the building is strictly controlled by security guards. Visitors must show identification and visitors must be expected by prior arrangement. Once inside the building, the various computer rooms are protected by double sets of doors, controlled by a Honeywell card system. Video cameras are situated throughout the building and outside it. The site is guarded twenty-four hours a day, all year.

Company Organisation

CUC has four directors, as shown in Exhibit C. Exhibit D shows the structure of the rest of the company.

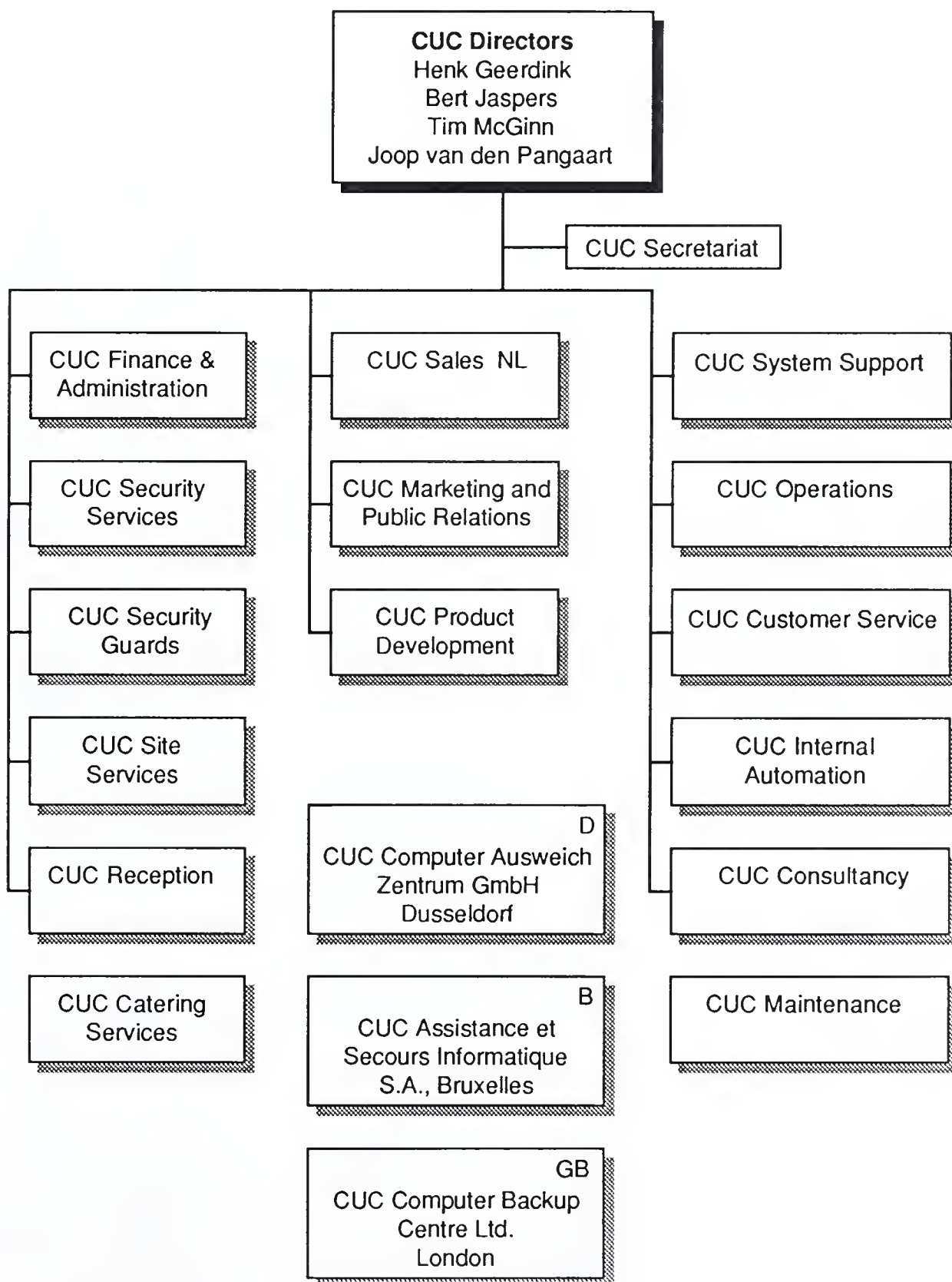
The Future

The directors at CUC believe that the market for disaster recovery is increasing. Awareness is growing, and companies are beginning to believe that disasters could happen to them, especially in the wake of incidents such as the California earthquake, gales in the U.K. and the flooding of the Seine in Paris. In the Netherlands there is also pressure from third parties stimulating the market. Next year, it is likely that companies dependent on information systems for their business

CUC has sophisticated communications links and has found the Dutch PTT very helpful. By using identification codes, CUC believes that its computers are hacker-proof over the remote lines. Clients dial in, are verified, and then are asked to dial back on a given number which will allow them to access the computer.

Exhibit D

CUC Company Organisation—70 Staff



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will have to be audited every year to prove that they have proper plans in the event of a disaster. This audit is likely to become a standard part of a company's annual report. Also, insurance companies are more likely to offer competitive

extension of its disaster recovery services, and is consistent with CUC's aim of providing continuity of service. CUC believes that its service is unique. CUC believes that in the United States, most escrow services are offered by lawyers and they do not have the right conditions for storing tapes, nor do they necessarily ensure that the source code is kept up-to-date and regularly tested. CUC believes that it can offer six important features which are listed in Exhibit E.

Exhibit E

CUC Escrow Service

- Adequate storage
- Legal support
- Technical support
- Practical approach
- Continuity
- International coverage

Storage

Security at CUC is very high and the building already has the correct conditions for data storage, such as antistatic carpets. Each client is given a box, which is uniquely sealed. CUC has strict procedures for allowing access to the data once it is stored. Each client has to supply two authorised names and these are checked regularly to protect against unauthorised withdrawals and deposits.

The Agreement

The agreement itself has undergone several revisions by various lawyers and is now said to be accepted by U.S. lawyers and to have been tested. The agreement is flexible in structure to allow for clients' different needs—for example, different MTTRs (Mean Time To Release) can be applied. A condition of the licence agreement is that the source code must be returned to CUC after any withdrawal—the client only needs the sources for continuity purposes.

premiums if comprehensive contingency plans can be demonstrated. The insurance companies are scrutinising plans with increasing care. The directors also believe that more companies will enter the market, but that many of these will not make adequate investment and commitment.

Escrow Services

CUC's escrow service was launched in October 1989. This a service for users and vendors of software, whereby source code can be deposited with CUC for safe-keeping. CUC believes that this service is a natural

Verification and Testing

CUC offers a verification service as a standard part of the escrow service. Verification of the source code is seen as an essential part of the service. CUC asks the supplier how the data was put into the storage media, which language it is written in, how many blocks there are and how it is labelled. This is to ensure that the data is copyable and readable at CUC. CUC also specifies that the associated documentation and any development tools are also there. All of these conditions are written into the escrow agreement. In CUC's experience, eight times out of ten there is a problem when copying the data, usually as a result of human error. The rigorous checks applied ensure that the data that is stored is correct.

A further stage offered by CUC is testing. Verification guarantees that the sources can be released in the same state as they went into escrow, but does not guarantee that the object code will be the same. CUC, using Coopers and Lybrand as a DP auditor, will compile the sources and compare the object code.

CUC ensures that the suppliers update the sources whenever changes are made. At the end of a year, CUC writes to the users and suppliers and lists the updates that have been made for that year. Every two years, the total deposit must be updated to enable the storage media to be renewed.

The escrow service is applicable to any user or supplier, no matter where they are located. The benefit of escrow for users is that they get protection from suppliers going out of busi-

ness—they will still have access to source code of their systems. It also assists continuity so that their business can continue in the event of disaster. ■

The Amdahl Executive Institute

The Amdahl Executive Institute was established by Amdahl Europe in response to the growing need for knowledge and understanding about the management of information technology.

The published objectives of the institute are:

- To assist senior executives of large European corporations to appreciate the potential and scope of information technology and to understand the management issues involved in applying it effectively.
- To help those responsible for managing information systems to do so as successfully as possible.

In order to achieve these aims the Amdahl Executive Institute adopts two main approaches. One approach is to organise conferences at which selected audiences are addressed by leading world authorities on key management topics. Examples of notable speakers at these conferences include Sir John Harvey-Jones, a leading industrialist, and Professor Michael E. Porter of the Harvard Business

School. The second approach involves conducting applied research into the application and management of information technology, the results of which are made available through seminars, executive briefings and published reports.

The Director of the Amdahl Executive Institute is Alan Bell, who is also Marketing Director of Amdahl Europe. Previous reports published by the Institute include:

- "Business Success and Information Technology - Strategies for the 1990's"
- "Innovation Through Information Technology - Managing Change"

Both of these studies were the basis of Amdahl Executive Institute conferences.

The most recent report issued by the institute is titled "Computer Disasters and Contingency Planning" and contains the results of research commissioned by the Amdahl Executive Institute. The report was launched at a press conference held at the Inn On The Park Hotel in London on July 4th this

Amdahl...from page 7

year, which was attended by members of the press from throughout Europe. Representatives of INPUT were invited to attend this press conference.

Amdahl Highlights Disaster Recovery

The most recent report published by the Amdahl Executive Institute highlights various aspects of disaster and contingency planning, and stresses that:

- There is increasing awareness of the importance of disaster recovery and contingency planning among senior managers.
- There is a growing awareness among senior managers of the need for commitment to effective planning to cover disaster situations.
- Many companies, however, still adopt a "head in the sand" attitude believing (or hoping) that disasters will not happen to them.
- If the top executives in a company do not ensure that the integrity of their company's computer systems is protected, they are failing in their responsibility.

Recommendations made by Amdahl in its report, aimed at establishing effective disaster recovery and contingency plans, cover three aspects. Firstly, a company should identify pri-

mary threats to its computer systems and establish what actions are needed to protect against these threats. Secondly, companies should develop procedures that can be implemented in the event of a disaster, procedures that will ensure adequate backup of data and permit recovery from a disaster. Once procedures have been established they should be tested during regular full rehearsals, and should be reviewed and updated as necessary.

The press conference also stressed the need for companies to understand the relationship between the cost of protection against disasters and the likely cost of a disaster occurring. A real-life example of this relationship was provided during the press conference by the case of Tesco PLC, a major U.K. supermarket group. The example compared Tesco's investment in disaster recovery of £15 million (approximately \$24 million), against a potential loss of 3 months' growth equalling £24 million (approximately \$38 million) in lost profit, if its computer system was put out of action for more than 2 days. This example highlights the potential risk of even a short-term disaster.

To highlight the potential causes of disaster to a company's computer operations, the report indicates that disasters usually occur as a result of the following:

- 30% of disasters are due to natural phenomena such as flood, fire, earthquake, etc.

- 70% of disasters are the result of human intervention. This percentage is subdivided into 25% caused by human error and 45% due to deliberate sabotage or hacking.

Following the press conference INPUT was fortunate to have the opportunity to discuss disaster recovery briefly with Alan Bell, Director of the Amdahl Executive Institute. During this discussion Alan Bell offered the opinion that provision of hardware only as a disaster recovery service was insufficient protection, and that contingency plans covering the total computer operation were more important. Contingency plans, including services aimed at consultancy and data security/backup, are much more critical to successful recovery. To underline this view, Alan Bell quoted an example where alternative hardware was provided by Amdahl—very quickly—in a recent disaster situation, and concluded that "providing alternative hardware is the easy bit."

INPUT's own research indicates that only about 50% of computer users throughout Europe claim to have access to a disaster recovery service. Further, discussions with service vendors suggest that a relatively high percentage of users, relaxing in the security of disaster recovery protection, may in fact be inadequately protected. Therefore INPUT concurs that a high proportion of computer users is exposed to risk in the event of a computer disaster. ■

Laserforce—New Printer Maintenance Company Launched

On July 4th this year, a new company specialising in the repair and maintenance of laser printers was launched in the U.K. The new company, Laserforce, timed announcement of its own independence to coincide with Independence Day celebrations in the U.S. As part of the launch, the publicity brochure circulated by Laserforce included an introductory offer in the form of a voucher valued at £100 (approximately \$169), which could be used as part payment for a customer's first maintenance contract.

Laserforce, as a new company, is the result of a decision by Rental Research to establish its existing maintenance operations as a separate company. As the sole owner of Laserforce, Rental Research markets a range of laser printers and controllers, and can provide the new company with access to an existing installed base from which the business can expand. Rental Research owns ATI, a United States-based company, which also markets laser printers and a range of in-house-developed controllers. The controller product range developed by ATI is sold in the U.K. by Rental Research under its own name. The General Manager of Laserforce is Brian Wright, who was previously with Erskine Support Services, and the company's registered address is in the centre of London.

A profile of Laserforce is provided in Exhibit F.

those where service capability is dependent on build standard.

Exhibit F

Laserforce Profile

- Revenue forecast
 - £1.1 million in 1990
 - £2.0 million in 1991
- Total staff - 20
- Strengths
 - Existing base
 - Home counties
 - Medium-speed printers

The company currently employs a staff of 20, which includes 16 field engineers, 2 base workshop engineers and 2 administrative staff. Revenues are forecast at £1.1 million (approximately \$1.75 million) for 1990, of which about 90% has been inherited from the parent company, Rental Research. Laserforce claims to have established agreements with a number of OEMs and VARs and to be already supporting over one thousand users throughout the U.K. Exhibit G lists some of the products that can be serviced by Laserforce. Preferred products are manufacturers' products that fit within current capabilities, and alternative products are

Currently, the company is focusing its business activities towards the servicing of medium-speed laser printers in the range of 15-50 pages per minute. In the future, however, Laserforce plans to include the servicing of high-speed laser printers in the range of 90-125 pages per minute and, where necessary, those that fit within the PC range.

Laserforce is forecasting a growth rate that will almost double its revenues in 1991 to about £2 million (approximately \$3.2 million). This revenue growth is to be achieved by expanding the range of customers outside the base that was

Continued on next page

Exhibit G

Laserforce Product Directory

- Preferred Products

- | | |
|-------------------|--------------------|
| - Canon | - Rental Research |
| - Epson | - Dataproducts |
| - Hewlett-Packard | - Fujitsu |
| - Kyocera | - Mannesmann Tally |
| - Ricoh | - 3M |
| - IBM | - Toshiba |

- Alternative Products

- | | |
|-------------------|-----------------|
| - Apollo | - Sony |
| - Apple | - Tandy |
| - Centronics | - Triumph Adler |
| - Data General | - Unisys |
| - Decision Data | - Zenith |
| - ICL | - Apricot |
| - Nokia | - Compaq |
| - OKI | - Commodore |
| - Datapoint | - Facit |
| - Bull | - NEC |
| - Siemens | - Tulip |
| - DEC | - Genicom |
| - Kienzle | - Memorex |
| - NCR | - Olivetti |
| - Philips | - Sun |
| - T I (Omnilaser) | - Wang |

Laserforce...from page 9

inherited from the parent company.

Working mainly with OEMs and VARs, Laserforce offers on-site contractual services that can be customised to match specific customer needs. Call placement can be either via the OEM/VAR response centre or direct from the user. A repair centre provides a "return-to-base" service, should this be required.

Based on INPUT definitions, the revenue stream of Laserforce is categorised as fourth-party maintenance revenue, as the source is primarily non-end user.

In the press release issued at the time Laserforce was launched, Chairman John Knight predicted a growing requirement for specialist maintenance services, particularly in the area of medium- and high-speed laser printers. "In the United States we have witnessed strong competition to the larger TPMs (independent maintenance companies - INPUT) from the major manufacturers' forming strategic alliances with specialist maintainers. There are already signs that a similar pattern is developing in the U.K."

Data published in a 1989 INPUT report, *Fourth-Party Maintenance Opportunities In Western Europe 1989 to 1994*, indicated that the U.K. market for fourth-party maintenance services was the most developed in Western Europe. Growth of fourth party maintenance services in the U.K. was forecast at about 25% over the period 1989 to 1994. ■

Snippets

- ❖ Fastback, the British Petroleum International-owned disaster recovery operation, has been sold to Datasolve, part of Thorn EMI. The company is located in Peterborough and has IBM 3080 and 4300 processors, and has now upgraded to IBM 3090 380J mainframes.
- ❖ GECO, the seismic survey subsidiary of the Schlumberger oil group, has ended a service agreement with its main supplier, Amdahl. It now intends to train its own staff to look after a 5870 mainframe and other Digital and Sun equipment.
- ❖ Kode Computers Ltd is relaunching as a service company, focusing on maintenance, project management, data recovery, systems integration, rental and leasing and training. Kode forecasts that around 30% of its revenues will come from service activities other than maintenance by the end of the year.
- ❖ Granada Computer Services Inc. in the United States has acquired a privately held California maintenance company, React Corp. React has 95 employees and generated around \$10 million in maintenance revenues last year.
- ❖ Twisted Pair Technology Ltd (TPT) is a new London-based company entering the market for structured cabling. It offers planning, development and installation of cable systems. TPT will market its products and services directly and through value-added resellers.
- ❖ Office Automation Services, a subsidiary of Olivetti Systems and Networks, has bought the assets of Oakley Computers Ltd. Oakley Computers is a third-party maintenance company and had a turnover of \$5.2 million in 1989. The activities of Oakley Computers were previously directed towards the Wang market.
- ❖ ICL has opened a new distribution centre at its Stevenage site. It claims that its despatch cycle has been reduced from nine days to three days and has saved on operating costs.

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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IN THIS ISSUE:

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ICL Technical Services (ICTS)— An Environmental Services Supplier

Background

International Computers Limited (ICL) is the largest computer equipment manufacturer in Britain, best known for its desktop office computer equipment and mainframes. ICL's results for 1989 showed revenues of £1.6 billion (\$2.5 billion) and profits of £140 million (\$220 million) up from £1.36 billion (\$2.15 billion) and £128.8 million (\$204 million) respectively in 1988. ICL Technical Services (ICTS), organised under the Customer Services Division, provides key support to ICL's client base by setting up the necessary infrastructure for the installation of ICL equipment. ICTS' activities currently generate 10% of the customer services division's

revenue which, in INPUT's estimate, is approaching £250 million (\$400 million) in the U.K. and it reports a growth of over 20% per annum.

Exhibit A illustrates ICTS' role within the ICL customer services structure.

Initially set up over 8 years ago to service ICL's customers, ICTS is rapidly establishing a name in its own right by winning contracts outside of ICL's client base.

Recent announcements indicating an agreement for Fujitsu to acquire an 80% share in ICL are likely to result in long-term changes in the activities of ICL. The impact of this acquisition remains a subject for future

discussion, however; for the purpose of this discussion, INPUT considers that it should not affect ICTS' day-to-day activities in the short term.

ICTS has its headquarters in Stevenage, Hertfordshire and twelve regional offices in the U.K. Its resources include a permanent staff of 60 and over 150 experts and consultants who provide a range of information technology-related environmental services.

ICTS's development of its own market reflects its mission statement:

"To be the preferred supplier to ICL's clients of building and

Continued on next page

ICL...from page 1

environmental services while providing targeted levels of revenue growth and profit from ICL and non ICL customers."

ICTS's Services

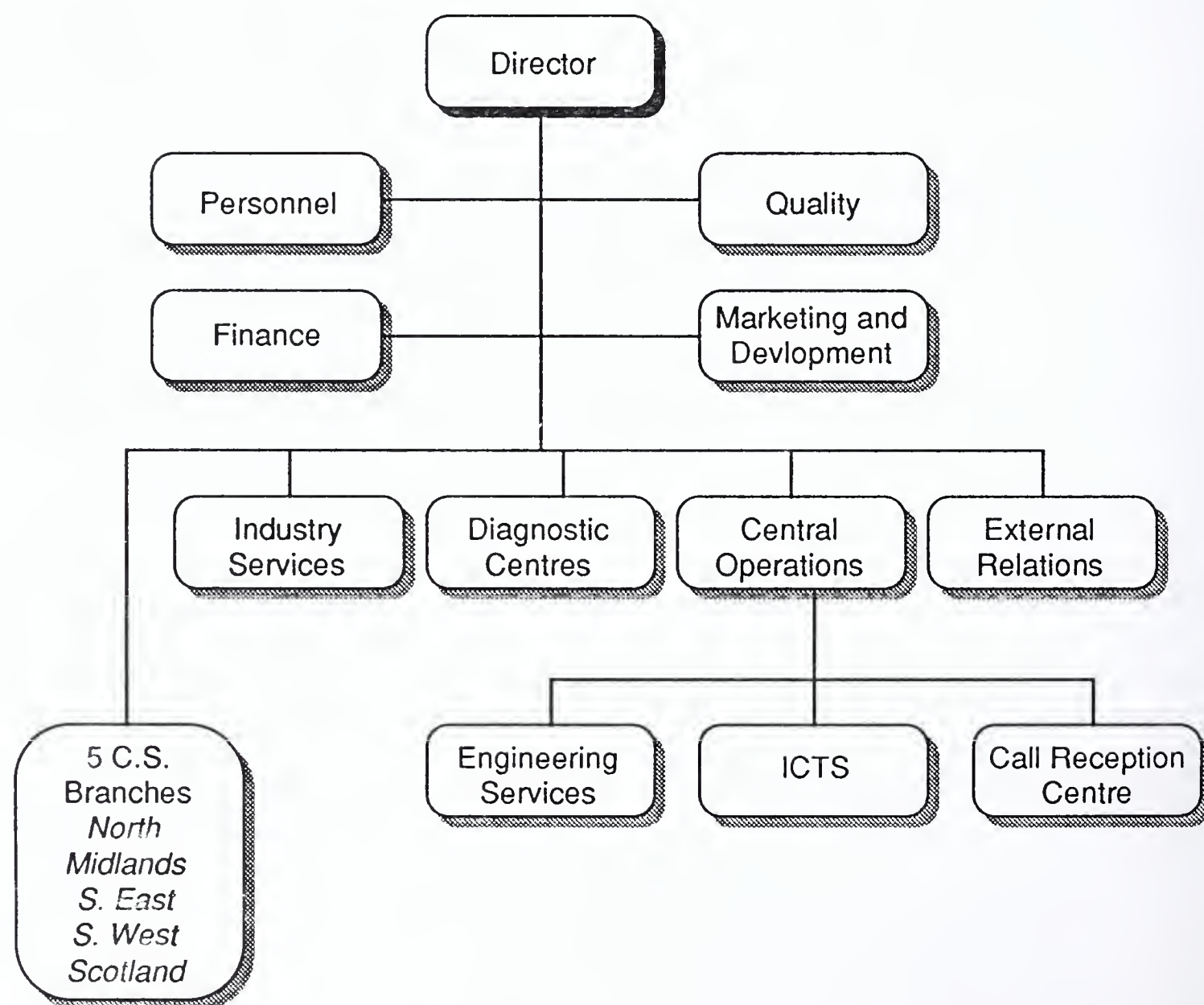
ICTS manages, on behalf of its clients, every stage of the site preparation for IT installations. These processes range from

initial planning permission, construction and installation of data networks to environmental control, space planning and security. The result of this comprehensive service is the hand-over of a completely validated computer environment. Exhibit B lists ICTS' range of services.

ICTS estimates that its activities are equally divided between networking, structured wiring

(Northern Telecom's Integrated Building Network—IBDN) packaging and other services such as power generation, UPS (uninterruptible power supplies) and environmental control. ICTS has announced that its structured wiring operation, officially launched in April 1990, represents 20% of its total business and is its fastest growing service. Exhibit C shows the analysis of ICTS' business activities.

Exhibit A

ICL Customer Service Division

ICTS's Market

At the present time, ICTS's market closely mirrors the pattern of ICL's installed base. The majority of its contracts are for defence and government, and the balance is spread between the banking, retail and manufacturing sectors. Exhibit D shows an analysis of ICTS' client base.

Relationship with Clients

ICTS prides itself on providing an integrated service. This means that it must manage a multidisciplinary team of architects, quantity surveyors, structural engineers, civil engineers, mechanical and electrical engineers, plumbers, etc., while ensuring that the environment meets the client's business, logical and technical needs as well as budget. To that end ICTS describes the entities involved in each project as "a team of partners." Exhibit E is a diagram of the ICTS-client-supplier relationship.

ICTS estimates that for each computer installation, an amount equivalent to 10% of the value of the computer equipment will be spent on environmental services. Total installations can result in considerable investments. For example, installing communication cabling in a three-story building can cost upward of £500,000 (\$795,000). ICTS therefore recommends that clients go through the following 12 steps when specifying an installation:

Exhibit B

ICL ICTS Range of Services

ICTS can design, supply and install the following services:

- Air conditioning
- Electrical installations
- Communications and data cabling
- Environmental control and building management systems
- UPS and generator sets
- Construction and building
- Modular floors and suspended ceilings
- Space planning and office furniture
- Fire detection and prevention
- Security systems
- Specialist cleaning services

Exhibit C

ICTS' Business Activities

Activities	Percent
Local-Area Networks (LANs)	30
Structured wiring (IBDN)	20
Packages	30
Services (power generation, UPS, etc.)	20

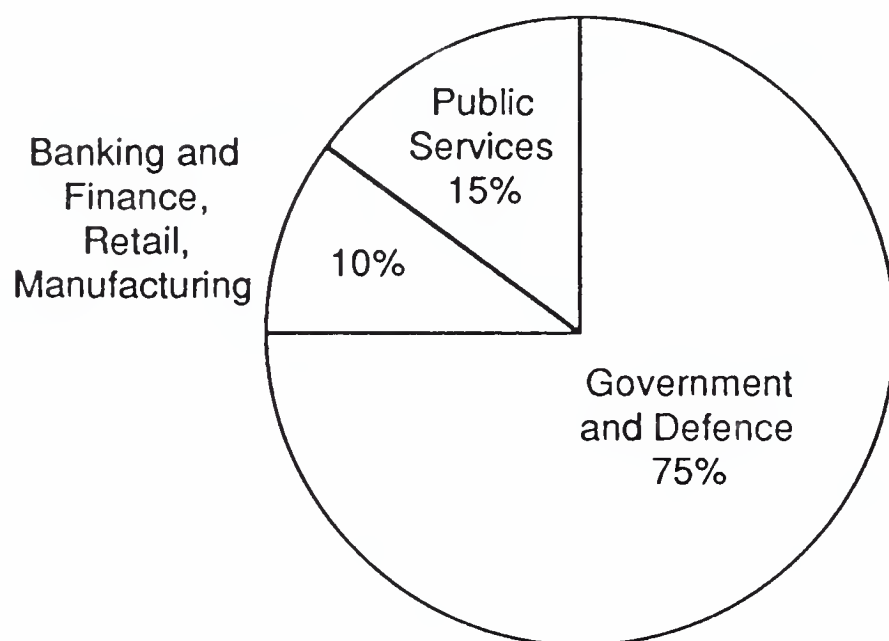
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ICL...from page 3

- 1) *Inception* - The client establishes the basic requirements for the installation, e.g., budgets, deadlines, etc.

- 4) *Scheme design* - The fulfillment of the brief is completed. Specifications and required services are all integrated. The client is sent a report for feedback.

Exhibit D

ICL—ICTS's Client Base Analysis

- 5) *Detailed design* - Costs are drawn up and all component parts are specified. Client approval is obtained for the detail and the costs incurred.

- 6) *Production information* - Specifications are drawn up, as are schedules and working drawings. The method of carrying out the project is agreed upon.

- 7) *Bills of quantities* - Bills of quantities are prepared. Arrangements for getting tenders are finalised.

- 8) *Tender action* - Tendering procedures are begun and a suitable tender is chosen.

- 9) *Project planning* - The contractor is provided with necessary information to plan the job. All roles are defined. The site is prepared for work.

- 10) *Operation on site* - Quality and progress are monitored.

- 2) *Feasibility* - The brief is developed. Alternative methods are considered. The project's feasibility is assessed in terms of finance, functionality, etc.

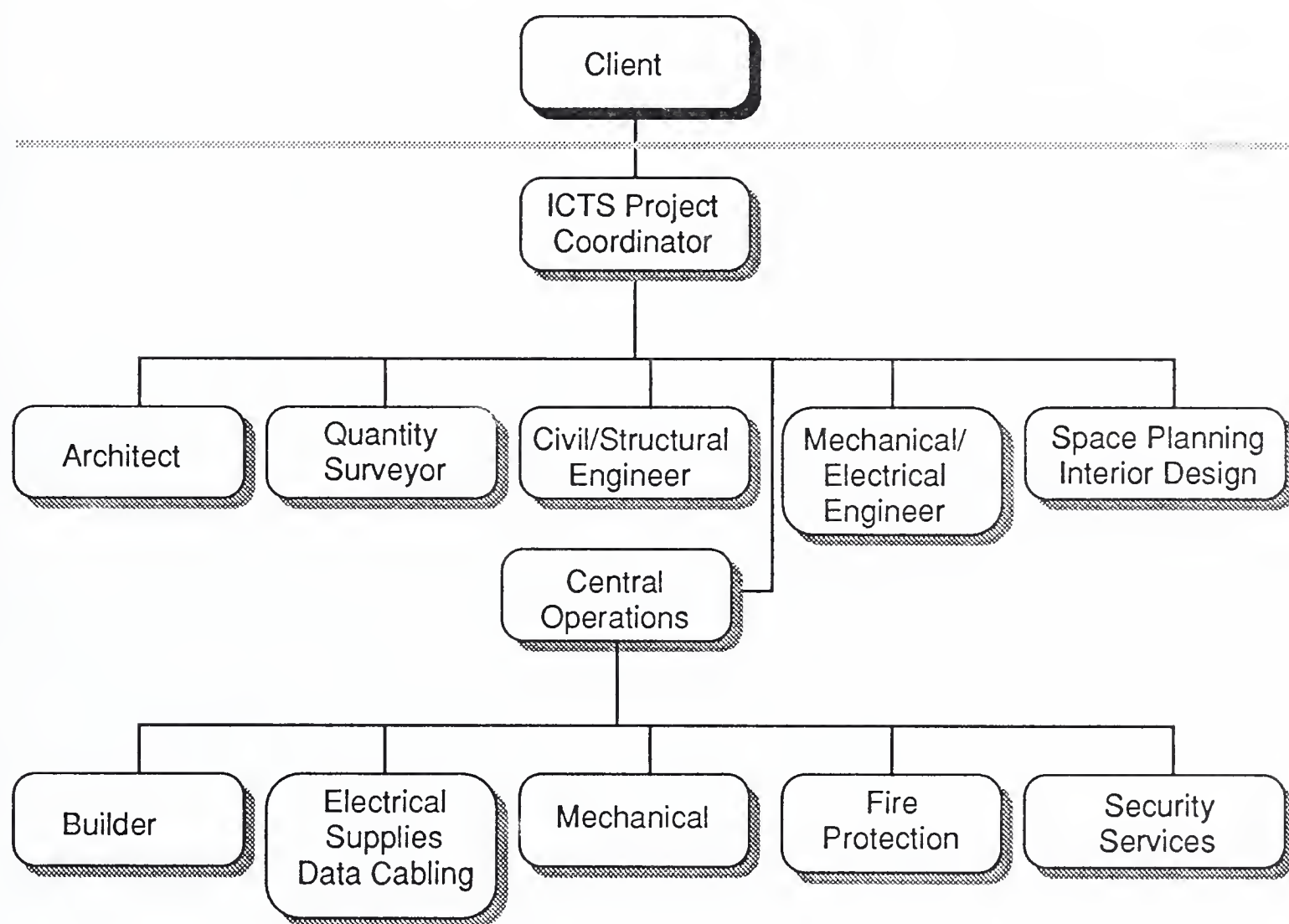
**“...quality is the key driver of
ICTS's operation.”**

- 3) *Outline of proposals* - The design is drafted, the construction methodology is assessed, layouts are drawn up, and a plan of costs is established.

Controls are implemented to ensure fulfillment of obligation, and regular progress meetings are held with the client.

Exhibit E

ICL—ICTS Client/Supplier Relationship



11) *Completion* - The completed project is handed over. Problems are rectified and a final certificate is issued.

12) *Feedback* - The design of the building and how it copes with its role is analysed based on the client's experience.

ICTS stresses that "Quality is the key driver of (its) operation." It

is BS 5750 accredited, which means that it conforms to the ISO 9000 standards of quality, and requires all its suppliers and associates to apply these standards.

The Future:

Due to legislative changes and the increasing trend for companies to look outside their

organisation for specialist services such as relocation assistance and environmental consultancy, ICTS sees major opportunities in the 1990s in the following areas:

- Management of change

ICTS sees a need for the creation of ergonomically sound environments allowing

Continued on next page

ICL...from page 5

"... tomorrow's IT requirements must be able to be added to today's office environment."

maximum efficiency from IT investments.

IT represents a dynamic part of the office design. For companies to be able to implement their future strategies, "tomorrow's IT

requirements must be able to be added to today's office environment."

Typically, a building is

retenanted every two years; people move within the building every 8 months; and every 5 years there is likely to be a major refurbishment.

ICTS believes that incorporating expansion capability at the design stage of a building allows for much greater flexibility and means that changes are easier to manage.

- The creation of "intelligent buildings"

ICTS foresees that by 1993, 50% of all buildings will have to be "intelligent." This means that the IT impact on power requirements, office space, lighting and cooling must be understood. IT now plays a fundamental role in building design and thinking. Architects will have to be aware of the flexibility requirements of their clients and allow easy expansion. ICTS considers itself well positioned to meet these challenges. Intelligent buildings have a single network enabling all IT to be controlled by one building

management system. Lighting, heating, temperature control, energy consumption, and access to buildings can all be controlled by management.

- Structured wiring (IBDN)

Northern Telecom's Integrated Building Distribution Network (IBDN) is an in-building communication wiring and connecting system that networks a variety of existing and future communications equipment. These networks are designed to address current and future integrated voice data (IVD), LAN, image transmission and connectivity needs.

Businesses are using increasing amounts of IT. This creates more demands for cable and wire space. Structured wiring systems are starting to be "...considered as a 4th utility, alongside gas, water and electricity."

ICTS' chosen market segments are a mixture of large building package systems and extensive speech and data cabling undertakings. In order to address the growth of Open Systems and the implications of increased connectivity, together with its impact on office/building environments, ICTS sees the need and has the capability and resources to provide the truly multi-disciplined approach required. ICTS' future growth plans involve breaking away from its classic ICL business profile and firmly establishing itself in the design and building construction management arena. ■

News from the USA



Wang Laboratories, the troubled office automation equipment manufacturer secured its largest order ever in August.

The company has won a five-year contract to supply computer systems and services valued at \$841.3 million, to the U.S. Department of State. The contract covers the provision of office automation and distributed information processing computer systems for the Department of State, the U.S. Agency for International Development, the U.S. Information Agency, the Foreign Agricultural Service of the U.S. Department of Agriculture and the Foreign Commercial Service of the US Department of Commerce.

Wang's stock price rose from \$3 3/8 to \$4 1/4 when news of the order came out. This is welcome news for a company which has recently announced significant reductions in headcount.

IBM Announces Auto-Ma

IBM recently announced the availability of Automatic Maintenance Authorization, providing customers with the automatic addition

of future equipment to their IBM Maintenance Agreement. Customers signing on for this option will have all future equipment purchased automatically added to the maintenance agreement when the warranty expires, with no interruption in service coverage. As an added feature, customers may designate the specific equipment types and/or locations that they want the AUTO-MA option to cover.

IBM Introduces New Support Service

IBM expanded its software support service in the U.S. on August 23d with the launch of FastService, a facility designed to enable large systems customers to automate trouble-shooting and problem resolution in their software applications. FastService uses proprietary software to assist and notify customers of problems in application software and to propose solutions. IBM believes that in certain cases FastService can shorten the time taken to detect and correct applications problems by 40%. The new service will be available in the first quarter of 1991 and will support users of COBOL, PL/1 or Assembler applications under MVS/XA or MVS/ESA.

Continued on next page

News...from page 7

Hewlett-Packard Announces Strategy Changes in Engineering Software Division

Palo Alto, California, August 31, 1990. Hewlett-Packard Company, the international manufacturer of computation and measurement products, announced a change in strategy within its Engineering Applications Group—to focus software development on the mechanical engineering and data management markets and phase out HP's proprietary electronic design automation software.

The Mechanical Design Division (MDD), which creates application programmes for mechanical CAD and product information management, will operate as an independent software division, effective immediately. It will have a dedicated sales force and will be free to make its products available on any hardware. The division's software is available today in Intel 386- and 486-based computers and uses the MS-DOS operating system in addition to the HP workstation family.

The Electronic Design Division (EDD), following a new release of EDA software planned for the fall of 1990, will undergo a two-year transition away from developing its proprietary EDA software in favour of strengthening relationships with third-party companies.

This enhancement is designed to improve customers' productivity by providing added capabilities and increased compliance with

industry standards such as the X-window System and Electronic Design Interchange Format.

HP also said it will continue supporting the CAD framework initiative, a committee of workstations and EDA vendors and users whose charter is to define standards that will help EDA users integrate a variety of suppliers' products into their design systems.

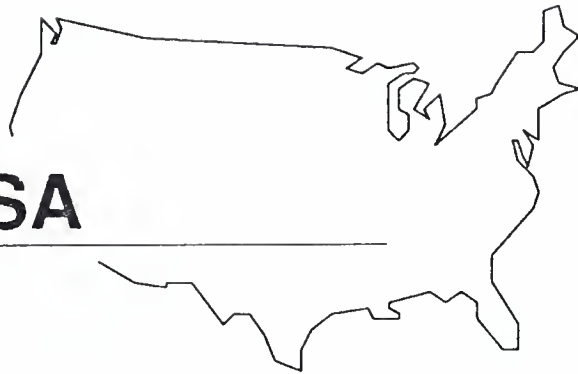
The EDD products will continue to be available during the transition period and will be supported by HP for 5 years thereafter. In addition, the changes in EAG have no effect on HP's microwave design and CASE products.

During the phase-out, there will be gradual changes in employment levels at the 165-person EDD facility, which is based in Fort Collins and has operations in Colorado Springs, CO. As the transition continues, employees will receive company assistance in finding jobs elsewhere in HP.

HP said today's announcement reflects the momentum of the open systems movement. In addition, the changes within EAG allow the company to compete more effectively in the workstation and mechanical CAD market.

MDD, based in Boeblingen, West Germany, with operations in Fort Collins, CO will continue focussing on ME-CAD and product information management software. ■

Questions from the USA



Q: How many "hot sites" does Sundata Disaster Recovery Service have at this time and what are the capabilities of each?

A: Sundata currently has three hot sites located in King of Prussia (PA), Atlanta (GA), and Irvine (CA). Each site is equipped with a System/36, System/38, and AS/400 up to a B70. There are also three mobile data centres at the same hot site locations.

Sundata recently reviewed 23 different packages for planning, using cost, flexibility, and midrange system capabilities as their criteria. Recovery Pak II was chosen as the most cost justifiable and has been marketed for approximately six months.

Q: What is the "48-hour Express Maintenance" service available on the IBM PS/1?

A: With the 48-hour Express service, the customer calls an 800 number to discuss problems with the equipment over the

phone. If replacement parts are required, they are sent out by courier to arrive within 48 hours of the call. The system comes with a one-year warranty and is geared to the customer market.

Q: IS "HEAT", a PC-based help desk product jointly developed by the Help Desk Institute and Bendata Management Systems, directly interfaceable to a host? Is it compatible with a Token Ring network?

A: HEAT connects directly to Newman, Infoman, and PNMS, and is priced according to the number of workstations connected to the help desk. HEAT is compatible with Token Ring NET BIOS.

Q: What is WANG's replacement policy in the event of disaster?

A: WANG has a service in which for 1% of list price per year, in case of disaster it will send out a temporary replacement, configured exactly like the damaged equipment. The temporary equipment will arrive within 24 hours, with the permanent replacement arriving within 48 hours.

Getronics Continues Internal Growth and Makes a New Acquisition

Getronics NV, the software services company based in Amsterdam, reports that revenue grew by 18% in 1989 and net profits grew by 23% to Dfl 21.8 million (\$12.25 million) in the first six months of 1990. Exhibit F shows comparative half-year financial results for 1989 and 1990.

These results in the Netherlands and in other countries can be totally attributed to organic growth.

The largest contribution to the improved financial performance was made by the Maintenance and Installations sector. Electric Engineering, the Telematics installation company of the Getronics Group, showed progress and was boosted by market growth.

Datex, in spite of the loss of large training contracts, managed to maintain its position over the last year.

Diode in the Netherlands and Belgium performed below expectation as a consequence of the difficult market for active and passive components. The Diode companies in Spain and Portugal achieved good results.

The companies Geveke Electronics and XTEC expanded in the areas of PC integration within network configurations. The LAN group of Geveke Electronics managed to secure a number of large contracts which, Getronics predicts, will

Exhibit F

Getronics NV Half-Year Results 1990

Year	6 Months Ended June 30		Year Ended December 31 1989 (\$ Millions)
	1990 (\$ Millions)	1989 (\$ Millions)	
Sales	180.62	153.5	334.1
Operating Profit	17.3	14.6	31.8
Net Profit (1)	12.2	9.9	22.5

increase the Group results for the remainder of 1990.

Another event that, in INPUT's opinion, will contribute to Getronics' future results is the proposed acquisition of Synergie, the information technology consultancy company.

Getronics announced on August 24th, 1990 that the management of both companies had reached agreement on the terms of the take-over of all outstanding shares in Synergie Holding BV by Getronics NV.

Synergie has branch offices in Amsterdam, The Hague and Brussels, and according to Getronics it ranks among the largest specialised consultancies in the IT industry. Synergie's

staff of 100 consultants specialises in information auditing, information organisation and software consultancy for medium and large organisations.

Getronics hopes this acquisition will allow it to broaden its activities in the software services and consultancy sectors. Existing Getronics companies in these sectors are Datex (500 employees) and Bruggeling Automatisering.

Grouped within Getronics, these companies expect to be able to meet the growing demand for larger and more complex information structures more easily; consequently Synergie will contribute to the growth of Getronics NV in 1990. ■

Snippets

- ❖ BULL HN Information Systems Ltd in the U.K., has been awarded a £9.6 million (\$15.2 million) contract to computerise administration at 42 Royal Air Force stations over the next two years. The contract includes £7.4 million (\$11.7 million) for 42 DPS 6000 minicomputers and £2.2 million (\$3.5 million) for 1,700 terminals and printers.
- ❖ CITIZEN WATCH CO. has established a West German subsidiary—Citizen Computer Peripherals GmbH in Neufahrn, Bavaria. The new company will market its low-end printers, floppy disk drives and liquid crystal diode displays starting next month.
- ❖ BIS, the British software house owned by Nynex, will spend £10 million on a stake in its rival, Hamburg based GMO. This will make BIS the first British software house to have a significant presence in Germany. BIS will acquire an initial 32% of GMO and wants to acquire a substantial majority shareholding within the next three years.
- ❖ IBM is once again reorganizing and divesting itself of portions of its business that do not match its strategic objective. It has recently agreed to sell certain portions of the National Service Division (NSD), including ATM service agreements and parts, to Diebold. IBM also announced the formation of a wholly owned subsidiary consolidating its typewriter, keyboard, intermediate and personal printer and supplies business.
- ❖ KODE International returned to profit in the first half of 1990. Turnover fell from £15.87 million (\$25.2 million) to £9.16 million (\$14.5 million) as a result of disposals made in 1989, but there was a pre-tax profit of £381,000 (\$605,000) against a loss of £227,000 (\$360,300) in the corresponding 6-month period in 1989. After selling its distribution business, Kode has concentrated on a range of professional services including maintenance, engineering support and training. Directors forecast that it will still take longer for Kode to produce the level of return it is capable of.
- ❖ Specialist Computer Centres (SCC), the Birmingham-based IBM agent, has acquired Asystel UK from the administrative receivers. Asystel UK was established 4 years ago as an IBM systems centre. Although its turnover reached £23 million (\$36.5 million) it never showed any profits and went into deeper trouble when the French parent Asystel SA experienced financial difficulties in 1989 and withdrew support. Asystel Spartex, the dealership subsidiary, will assume the Specialist Computer name, and Wordability, the training subsidiary, will be known as Specialist Computer Education (SCE).

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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INPUT LIBRARY

CONCEPT—A Growing Service Company

GROUP CONCEPT was founded in 1971 by Olivier Spire, Sydney Bendahan and Michel Lavigne. Between 1985 and 1989 its revenues have increased over a hundredfold, from FF 21 million (\$4 million) to FF 2.3 billion (\$437 million), which places it in third position among what it describes as 'computer services groups' in France. Its areas of activity are: software services, professional services, including consulting services, processing services, turnkey systems and independent maintenance. Exhibits A and B provide an analysis of GROUP CONCEPT's

revenues. GROUP CONCEPT has four distinct companies within its structure: CCMC, Technic Informatique, SCE and SCBF. Exhibit C illustrates GROUP CONCEPT's company structure.

Interest in CONCEPT for INPUT Customer Service Programme clients mainly relates to CONCEPT'S independent maintenance activities through the acquisition of Spectral and MIS in France. However, as CONCEPT approaches being able to provide total solution services, an overall profile of the

company should be of general interest.

CCMC

The company (with 1989 revenues of \$223 million) is quoted on the "Marche a Reglement Mensuel" on the Lyon Stock Exchange. CCMS has five divisions:

Data Systems - This division performs processing services, payroll management and accounting functions for the accounting profession and its clients. These services are

Continued on next page

CONCEPT...from page 1

Exhibit A

GROUP CONCEPT Revenues, 1989-1990

	1988 (\$ M)	1989 (\$ M)	Growth (Percent)	Revenue from Acquisitions (\$ M)	Real Growth (Percent)
CCMC	199.6	223.0	11.7	11.1	6
Technic Informatique (1)	23.1	133.0	474.0	97.9 ⁽²⁾	50
SCE	18.9	30.5	61.8	.8	58
SCBF	50.0	70.4	41.0	8.4	24
Other	3.6	6.6	84.0	2.3	21
GROUP CONCEPT	307.3	433.3	41.0	88.0	13
(1) Including Spectral MIS		444.0	262.0	30.9	13

(2) Including Spectral MIS for \$45.1 M and CIS \$29.8 M (Intra Group)

Currency conversion by INPUT (\$1 = 5.27 FF)

Exhibit B

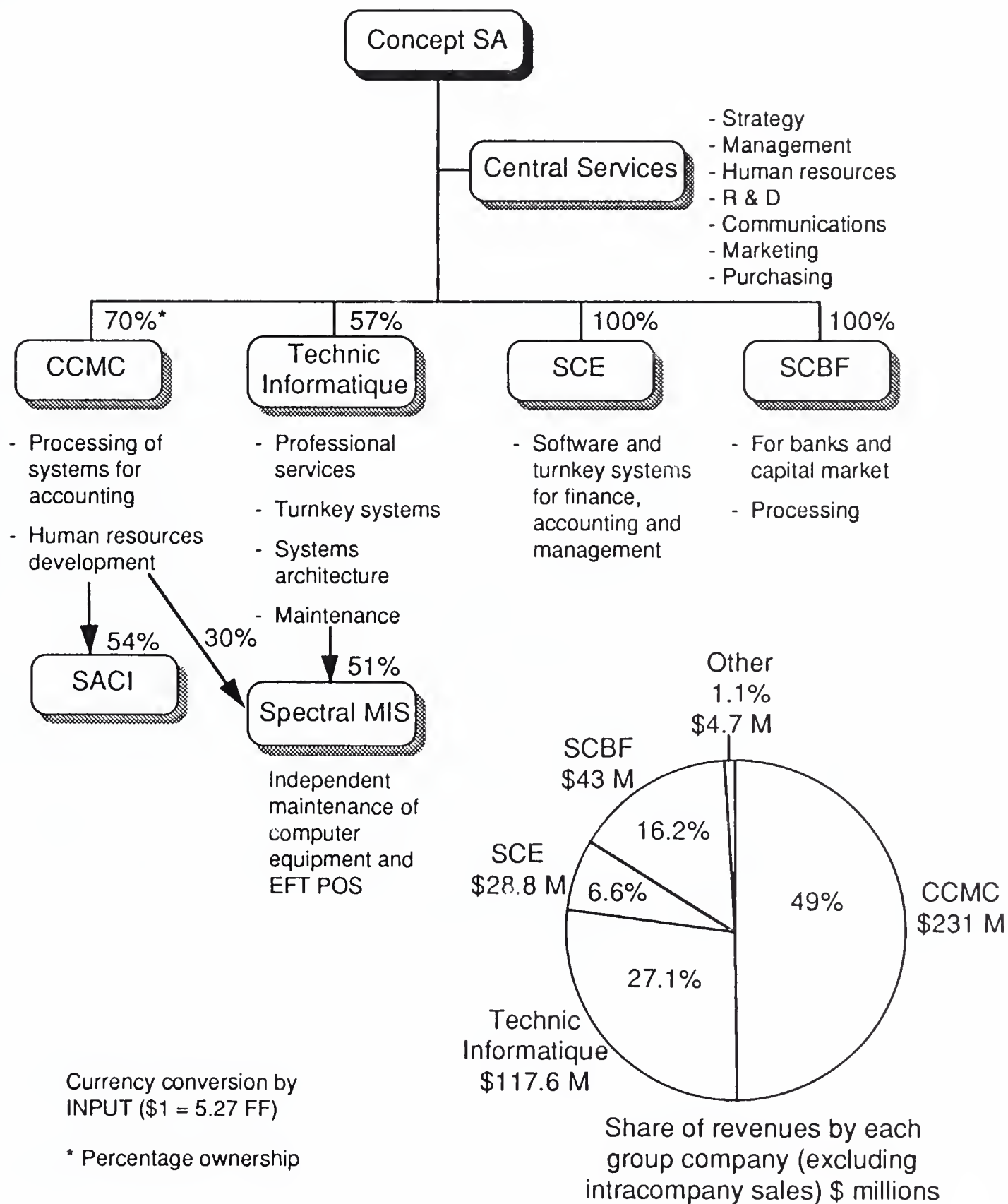
Analysis of Concept Revenues by Delivery Mode

Delivery Mode Company	Software Products (\$ M)	Professional Services (\$ M)	Turnkey Systems (\$ M)	Processing Services (\$ M)	Independent Maintenance (\$ M)	Office Automation (\$ M)	Other (\$ M)	Totals (\$ M)
CCMC	33.8	3.8	36.2	98.7		38.9	1.7	213.1
Technic (1) Informatique	6.1	19.7	47.4		44.4			117.6
SCE	19.3	5.1	4.4					28.8
SCBF	28.5	9.5	4.4					42.4
Other		1.5					4.7	6.2
Total	87.7	39.6	92.4	98.7	44.4	38.9	6.4	408.1
Percent	20.0	9.1	21.0	29.2	10.2	9.0	1.5	100.0

Currency conversion by INPUT (\$1 = 5.27 FF)

Exhibit C

Organisation Chart—1989



Continued on next page

CONCEPT...from page 3

performed from three computer centres in Lyon, Orleans and Nancy. Data Systems also develops new processing software for other GROUP companies and provides consultancy in facilities management and banking applications.

Management Systems - This division provides turnkey systems running on mini and microcomputers to accountants and SMEs (small and medium enterprises). It also markets software products for horizontal (accounting, sales management etc.) and vertical (by activity sector) markets.

Human Resources - This division provides human resource management and payroll computer systems to accounting firms, SMEs and larger companies.

Training - This division, which will be split off from CCMC to operate as an independent unit in 1990, is designed to provide continuing education services in management and accounting.

SACI - This company is quoted on the "Second Marche" of the Lyon Stock Exchange. Its main activities are printing, graphic arts and distribution of PC/office automation supplies.

Technic Informatique (TI)

TI, with 1989 revenues of \$133 million, is quoted on the "Second Marche" of the Paris Stock Exchange. Its client base is mainly large companies in all business activities. TI provides professional services (conception, support and implementation of industrial management systems) and turnkey systems running on IBM AS/400, Digital and micro networks. It is involved in complex systems architecture projects. TI controls Spectral MIS, the third-party maintenance company formed in 1989 as a result of the merger of Spectral and MIS.

SCE

SCE, with 1989 revenues of \$30.5, offers consultancy services specifically to large groups of companies. SCE develops integrated software products and turnkey systems to manage treasury, accounting and financial reporting functions.

SCBF

SCBF, with 1989 revenues of \$70.4 million, provides services to banks and financial institutions in three areas:

- Systems to manage capital market activities, risk management, portfolio management and interlink with compensation systems.
- Turnkey systems for the management of banking activities and dealing rooms.
- Processing services for EFT and facilities management (also called systems operations by INPUT).

Human Resources

Personnel increased by 63% from 2,270 to 3,707 in 1989. This was due both to new acquisitions and intensive recruitment. 365 new positions were created over the last year. GROUP CONCEPT's social policies rest on maintaining the cultural environment of its acquisitions. It believes in staff option schemes and profit participation as well as continuing education and internal communication. Exhibits D and E provide figures of staff growth and productivity figures.

Exhibit D

1989 Productivity Figures for Concept

	Revenues per Employee (\$ K)	Added Value per Employee (\$ K)
CCMC	139.3	69.1
Technic Informatique (1)	136.1	68.5
SCE	124.7	95.4
SCBF	158.8	104.9
GROUP CONCEPT	127.5	72.1
Spectral MIS (1) included since 1989	93.0	54.8

Exhibit E

**Staff Growth Figures
1988-1990**

	FYE 1988	FYE 1989	Professionals (Percent)	Increase	New Positions 1989	1989 Average Staff
CCMC	1,407	1,628	54	221	18	1,600
Technic Informatique	108	1,087 ⁽¹⁾	46	919	170	980
SCE	225	290	68	65	80	245
SCBF	338	538	75	200	110	443
Other	33	60	79	27	5	45
Head Office	99	104	82	5	12	105
GROUP CONCEPT	2,270	3,707	57	1,437	365	341
(1) Including Spectral MIS		503	9	338	29	48

Continued on next page

CONCEPT...from page 5**GROUP CONCEPT
Client Base**

Through diversifying its services and developing business throughout Europe, GROUP CONCEPT has acquired a client base of 4,000 large companies, 500 banks, 5,000 accounting firms and 250,000 SMEs. It claims to have a 5% share of the French computer services market. Exhibit F provides an analysis of GROUP CONCEPT'S client base.

Geographic Coverage

CONCEPT has offices in 70 cities in France and in eight

countries in Europe: Belgium, Germany, the Netherlands, Italy, Portugal, Spain, Switzerland and the U.K. Revenues outside France represent 13.1% of the total, or \$57 million. Italy represents the largest portion of these revenues, at over \$48 million. Exhibit G provides an analysis of non-French revenues.

Growth Strategy for 1990

GROUP CONCEPT'S revenues grew by 41% between 1988 and 1989. Thirty-five percent of the growth in revenues was due to merger and acquisition activity, and the internal growth was 6%. The internal growth is mainly due to a shift from processing

services for the accounting profession, which decreased by 17% in 1989, to providing independent systems, which increased by 37% within CCMC. CONCEPT predicts that growth in revenues for 1990 will exceed \$570 million. This forecast is based on continuing internal growth of 20% and CONCEPT'S forecasted acquisition programme. See Exhibit H for 1990 forecast figures.

GROUP CONCEPT sees two main changes occurring regarding achievement of its objectives:

- The following activities from CCMC will branch off into independent subsidiaries: processing services, independent systems, payroll and personnel management. These will all be set up as independent business units.
- The branching off of some of CONCEPT SA's activities and the merger of Group SCE, CONCEPT Conseil and Technic Informatique to cater specifically for the needs of large companies.

GROUP CONCEPT believes that its success is mainly due to structural consolidation and good management of its acquisitions since 1987. GROUP CONCEPT makes available to every newly formed or acquired company its internally generated language for software development called SDL, claiming that SDL ensures an

Exhibit F

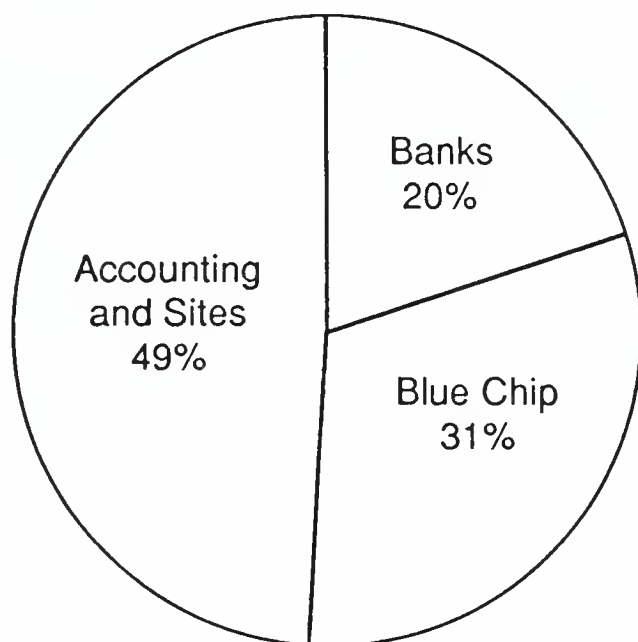
GROUP CONCEPT Client Base

Exhibit G

**GROUP CONCEPT Revenue Analysis by Geographic Area
(Excluding Intercompany Sales and France)
(\$ Millions)**

	%	Portugal	Spain	Italy	Germany	Belgium	Netherlands	U.K.	Total
CCMC									0
Technic Informatique	9.0				0.95		2.66	1.52	5.13
SCE	12.7	0.95	0.76	4.36		1.14			7.21
SCBF	78.3		0.57	44.02					44.59
Total	100.0	0.95	1.33	48.38	0.95	1.14	2.66	1.52	56.93
Percent		1.7	2.3	85.0	1.7	2.0	4.6	2.7	

Currency conversion by INPUT (\$1 = 5.27 FF)

Exhibit H

**GROUP CONCEPT Forecast
1990**

	Revenue	Growth from 1989 (Percent)	Net Profit	Profit (Percent)
Group CCMC	247	10	15.0	6.1
Group Technic Informatique (1)	159	20	9.5	6.0
Group SCE	40	30	2.6	6.2
Group SCBF	95	35	7.6	8.0
GROUP CONCEPT	541	20	34.7	6.5
(1) Including Spectral MIS	153	17	5.1	9.5

Currency conversion by INPUT (\$1 = 5.27 FF)

Continued on next page

CONCEPT...from page 7

exceptional level of productivity and reliability in the development and evolution of software products. The flexibility and portability of SDL allows the group to maintain technological independence and gives it a competitive advantage in the rapidly changing financial environment which characterises its client base.

Spectral MIS**Background**

Spectral MIS is the third-party maintenance company now operating under Technic Informatique (1989 revenue: \$133 million). It was formed following the acquisition of

Spectral and MIS in early 1989 and is the result of the merger of these two companies. The company is quoted on the "Second Marche" of the Paris Stock Exchange and had revenues of \$44.4 million in 1989. It has a total staff of 485. Exhibit I provides details on Spectral MIS' structure. Spectral MIS owns Aramis, a bench repair workshop with 20 employees; TMIS, an independent maintenance company specialising in servicing IBM computers, which has 16 employees; and MMC, which has eight employees.

Sales Organisation and Clients

Spectral MIS sells its services through a dedicated sales force and its VARs, backed up by a

direct mail programme and a telesales team.

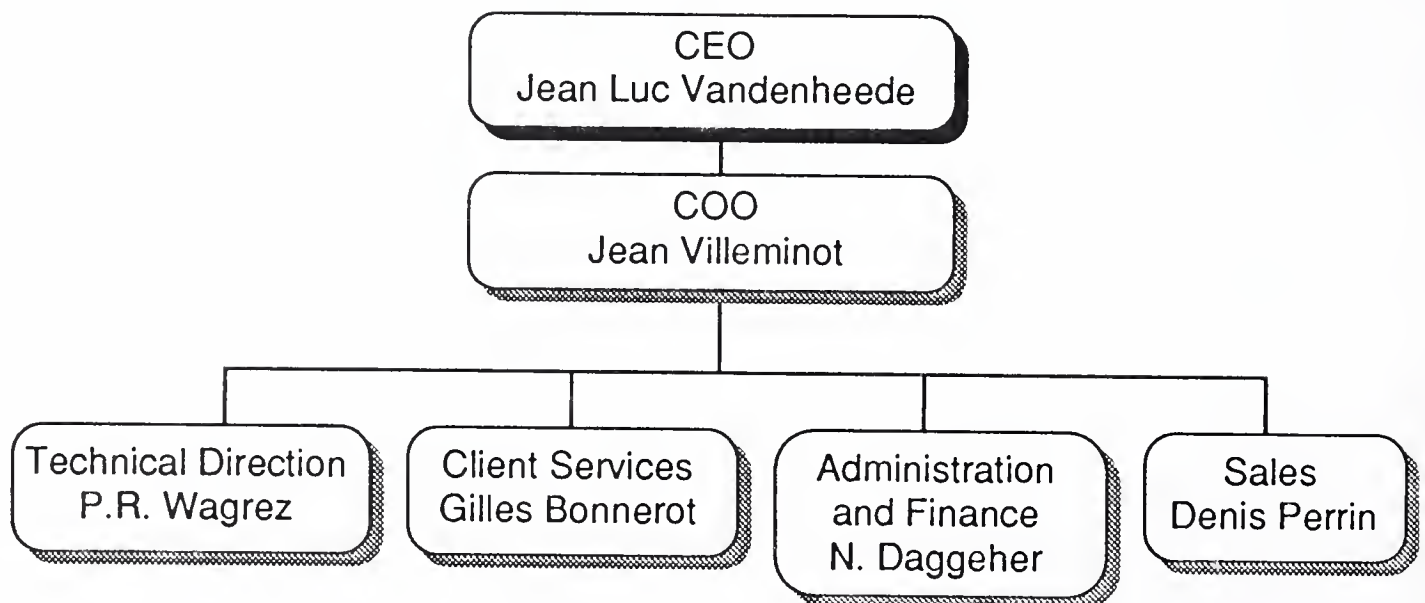
Spectral MIS maintains approximately 70% of CCMC's PC installed base. It has a client base of 12,000 and estimates that 80% of its revenues and profit before taxes are derived from 1/1000th of its clients.

Product Offering

Spectral MIS offers its maintenance services in three formats:

MAF (Maintenance Forfetaire Annuelle), which is the traditional one-year maintenance contract.

Exhibit I

Spectral MIS Structure

CRP (Contrat a Risque Participatif), in which the client shares the liability and owns stock and spare parts.

MSG (Maintenance Specifique Globale), a contract designed for companies with large sites or installed bases.

The company is organised into 13 service areas, with 60 maintenance centres staffed by 220 people (field service and bench repair personnel). Its standard service hours are from 8AM to 6PM Monday to Friday, with Saturday optional. Each customer is given access to a national phone number or "hot-line" service, which is manned by 20 people.

Its pricing structure is as follows: For '8-hour' response contracts (1 day), the client pays 100% of the hourly rate. If the contract requires a two-day response time, the fee is reduced to 85% of the hourly rate; for a 4-hour response contract, the fee is 130% of the hourly rate. If the equipment is still under warranty, the fees charged are 40% of these rates.

Services offered by Spectral MIS include:

- Data backup services
- Disaster recovery
- Training
- Cabling
- Network installation
- Management and planning
- Independent maintenance

Although CONCEPT has the capability to provide total solution service, Spectral MIS believes that the "Total Service Solution" (professional services, software services and maintenance) is not yet a user requirement. Although it is an advantage for a company to be able to offer a range of services but Spectral MIS does not systematically offer CONCEPT services to each of its prospective clients.

Analysis of Revenues

Eighty percent of Spectral MIS's 1989 revenues were derived from external maintenance contracts, with 55% of revenues derived from servicing PCs. Exhibits J and K provide an analysis of Spectral MIS's revenues.

Growth Strategy

Spectral MIS forecast 1990 revenues of \$57 million, a 25% increase over 1989. It plans to grow mainly internally. Its objective is to enhance the range of products serviced by shifting emphasis from mainly EFT/POS and PCs to PCs, minicomputers and large systems. It believes that future growth is based on:

- 1) Servicing larger systems
- 2) Providing quality service
- 3) Concentrating on high technology business

According to Spectral MIS, there is no significant future growth in small, easy-to-maintain equipment.

Exhibit J

Spectral MIS Analysis of Revenues by Equipment Type

Equipment	Revenue (\$ M)	Percent
PCs	24.4	55
Minis	15.5	35
Others	4.5	10
Total	44.4	100

Currency conversion by INPUT (\$1= 5.27 FF)

Continued on next page

CONCEPT...from page 9

In an interview with INPUT earlier this year, **Mr. Villemintot** shared his ideas on the future of independent maintenance companies.

According to Mr. Villemintot, the main issue for independent maintenance companies is the quality of the service provided. They need high-performance, efficient tools to insure high

quality. There is currently a price war going on and there is a great need for R&D in order to achieve the highest level of quality at the lowest cost so that clients will not be tempted to return to manufacturers for maintenance services.

Mr. Villemintot adds that in order to maintain their viability, independent maintenance companies have to reach a critical size. They need to be large enough to justify the necessary investment from their controlling groups. Mr. Villemintot believes that there will be significant merger and acquisition activity in the future.

At the time of going to press, INPUT received communications from GROUP CONCEPT that it had divested from SACI (previously part of CCMC) and SCBF. These divestitures are part of a group restructure which will affect the forecast figures in Exhibit H. Further details will be given in the November issue once INPUT will have received CONCEPT's updated figures. ■

Exhibit K

Spectral MIS Analysis of Revenue by Service Type

Service	Revenue (\$ M)	Percent
Maintenance	35.5	80
Other (bench, cabling, etc.)	8.9	20
Total	44.4	100

Currency conversion by INPUT (\$1= 5.27 FF)

HelpDesk—Providing Support to PC Users

HelpDesk is a U.K. company formed about 18 months ago with the objective of providing support to PC users. The company is staffed by eight consultants who had each been providing support to users for over eight years in a variety of companies and job roles prior to forming HelpDesk. Between them, the eight consultants claim to have over 30 years of user support experience.

In addition to providing support to PC users, at present on standard PC applications, the company has also developed its own sophisticated call logging system.

HelpDesk claims a high degree of uniqueness in the service market and lists the following factors as contributing to this uniqueness. HelpDesk:

- Does not sell product
- Does not maintain hardware
- Provides only support
- Will help a user to restructure an ailing in-house help desk
- Offers user training on help desk implementation, operation and management
- Uses a sophisticated call logging system

- Will provide second-line support if required

Currently, company revenue is between £500,000 and £1 million (\$0.9 million - \$1.8 million—they would not be more precise). Growth is currently very high and likely to continue at about 70% per annum in the short term. However, long-term growth is planned at around 25% per annum.

Currently HelpDesk provides support on about 35 standard PC applications, which include most of the popular packages (Lotus, Dbase, etc.). Support is also available on DOS and OS/2 operating systems.

The company claims that success to date has been due to the ability and experience of the staff and its reputation for providing quality service. Alan Howard, the Managing Director of HelpDesk, said:

“Users measure performance by the quality of support provided. Response time is the key.”

PC support services available are listed in Exhibit L. In providing this list of services, HelpDesk claims that a major strength of the company is that its service capability addresses an inadequacy in the level of support provided by dealers and software houses that operate through a dealer network.

Exhibit L

HelpDesk PC Software Support Services

- Help desk consultancy
- Remote software support
- Problem tracking software
- Measurable service

Continued on next page

HelpDesk...from page 11

Interesting Future Developments

In terms of future growth and development of the company, HelpDesk is investigating a number of potential opportunities.

- HelpDesk is looking to provide links, via independent maintenance companies, to a systems operations (facilities management) service. They recently polled nineteen companies and had a 100% positive response, with five or six of these being taken a stage further.
- HelpDesk is joining forces with the Northumberland Water Authority and Ernst & Young to provide one-day seminars. The programme for these seminars includes support issues, cultures, procedures and the requirements definition for support software.
- HelpDesk is looking at the possibility of providing network support for products such as 3Com, Novell and other industry standards such as Ethernet and Token Ring.
- HelpDesk is considering extending support services to include virtually all systems and equipment platforms

Exhibit M

HelpDesk Support Tools

- Syntax+
 - Call logging and tracking system
 - User reports
 - Technical information

where standard applications software packages are used.

- HelpDesk is also focussing its call logging system on AS/400, Digital VAX equipment and intends to provide support on those platforms.
- HelpDesk plans to provide support for UNIX-based systems.

The call logging system developed by HelpDesk is called Syntax+, and although this is primarily intended for in-house use, the company is prepared to negotiate sales with interested parties. Syntax is exclusively a support system, but HelpDesk is considering adding a field service management module at some future date.

In an interview with INPUT, Alan Howard of HelpDesk explained that:

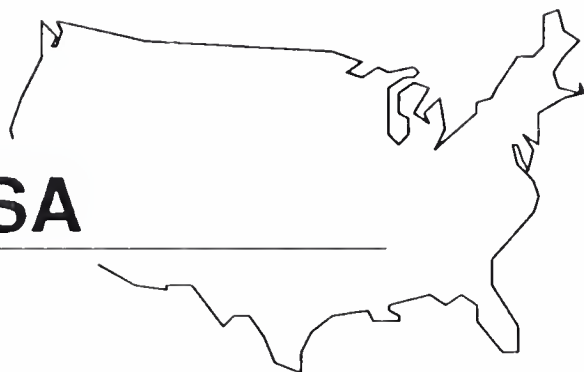
- The primary focus of HelpDesk is problem solving.
- A secondary focus is development of Syntax.

HelpDesk can be contacted at the following address:

HelpDesk Ltd.
51 Castle Street
Cirencester
Gloucestershire
GL7 1QD
The United Kingdom

Telephone: (44) 285-641286 ■

News from the USA



FRS Acquires Premier Computer Corporation

On October 2 1990, FRS of Sacramento, California announced the acquisition of Premier Computer Corporation. As a result of this acquisition FRS now claims to be the largest independent repair depot in the U.S. (By INPUT definitions, both companies are fourth-party maintenance).

FRS commented that this most recent acquisition, along with its recent acquisition of the Priam V-100 capability from Sequel, is another step in its efforts to expand offerings to customers and strengthen the company's already strong position in the continually growing computer repair market.

Premier, which has approximately 150 employees, will continue to operate. By combining Premier's capabilities with those of FRS, FRS claims to provide the broadest product offering by a single repair vendor in the USA.

In the release issued at the time of the acquisition, FRS claimed that it was recognised two years running as one of the fastest growing businesses in the Sacramento area. With revenues for FRS up 47% in 1989, the company's

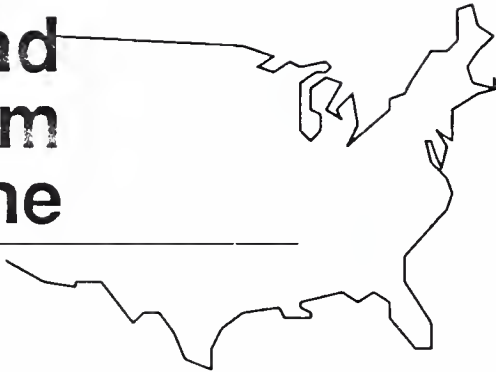
workforce increased from 120 to 160 employees and an additional 16,000 square feet of production space was gained. The addition of Premier adds approximately 150 employees and 42,500 square feet.

FRS also claims that by emphasising a quality-driven, flexible operation with an uncompromising quality control programme, that it leads the market in the USA for customer service. FRS repairs more than 2,000 computer peripherals a month, including hard and floppy disks, laser printers and tape drives. The addition of Premier will nearly double this capacity.

FRS is making plans to expand into Europe by 1992, when the European Community will become a single economic market of more than 300 million people. Many of FRS' customers in the USA already have overseas operations to which such services can be expanded. FRS clients include Apple, Microscience, Hewlett-Packard, Canon USA and Texas Instruments.

Through the addition of Premier's customer base, which has been focused on dealers, VARs and self maintainers, FRS claims to have the largest base of customers among all repair depots in the USA. ■

Questions and Answers from the U.S. Hotline



Question: What is the relationship between Contel, Telos and Eaton?

Answer: In third quarter 1988, Contel completed the acquisition of Eaton's Information Management Systems and Data Systems Services divisions. In August 1990, Contel announced that its Federal Systems Sector had a definitive agreement to acquire Telos Corporation. Telos, a Santa Monica software developer, specialises in ADA programming and consulting to space and defense programs, with some business in the commercial sector.

Question: What discounts do manufacturers supply to dealers if maintenance is passed back to the manufacturer and not done by the dealer?

Answer: Unisys offers two types of programs to dealers. If the dealer refers a lead to Unisys for maintenance, and Unisys writes a contract, the dealer receives a referral fee of 25% of the first year's maintenance contract price.

Hewlett-Packard offers three programs to its dealers for maintenance: the HP Support Provider option, the HP Support Subcontracting option, and the HP Support Reseller option. The HP Support Provider offers assistance, parts, documentation, and technical support from HP to the dealers to help the dealer provide the service support. Under the HP Support Subcontracting option, HP provides the actual service through the dealer, allowing the dealer to have complete account control. Under the HP Support Reseller option, HP handles the support and service account control, with no investment or minimum purchase by the dealer.

Question: It has been reported that Fujitsu is in the process of acquiring ICL. How much truth is there to these reports?

Answer: ICL and Fujitsu announced in August 1990 that Fujitsu would acquire an 80% stake in ICL from STC. ■

Snippets

- ❖ P-E International has introduced a service organisation which confers BS5750-type standards for marketing services. It is called Marketing Quality Assurance (MQA). This is the first company of its type in the marketing field. MQA is the result of a co-operative arrangement between the British Standards Association and P-E International. Companies which successfully pass the specification requirements will be allowed to display the MQA logo as proof of their meeting the standard of quality for providing marketing, sales and customer services. After accreditation, a company will be visited every 6 months to see that it maintains the standards. In the event that it does not, MQA may withdraw the company's right to use the MQA logo.
- ❖ The Ministry of Defence has reinforced its single-source maintenance policy by issuing tenders from two of its largest sites. The Atomic Weapons Establishment and the Directorate General Supply and Transport (Naval) have put out separate tenders for single-source maintenance. Under the single-source maintenance, the supplier with the winning bid will service all the equipment under a single maintenance contract. The Directorate's equipment includes ICL 2900 mainframes and systems from McDonnell Douglas, Ferranti and Bull. Presently this equipment is maintained either by the manufacturer or by independent maintenance companies. The MoD said that before it introduced single maintenance at the end of 1987, it was spending about £7.5 million at 15 sites for maintenance contracts.
- ❖ Systems Reliability has sold its computer dealer subsidiary, Corporate Computers, for £13 million to VRG Group, the Dutch office equipment supplier. This move is part of a decision on the part of Systems Reliability to concentrate its activities on mainframe services, software and maintenance.
- ❖ Another name change is about to occur. As of October 1, in the USA the merged companies of Siemens and Nixdorf will become Siemens-Nixdorf Information Systems.
- ❖ Siemens will have 91% of the votes and 78% of the capital of the Siemens-Nixdorf firm which merged as of 1 October, 1990.
- ❖ Hewlett-Packard has launched HP Hardware Support Service, which includes on-site maintenance for all its hardware products, and HP Apollo Support Service, which brings Apollo products under the HP service banner. According to HP, this offers the customer flexibility to choose the coverage that meets his needs and eliminates the distinction between service programmes for PCs.
- ❖ Ferrari Technical Services introduced two new services in August 1990: a nonstop maintenance service and a new disaster recovery service.
- ❖ IBM UK notified customers in August that all its prices were going up. This announcement follows a 5% price increase for hardware in March 1990. Hardware prices are rising by another 5%, making an overall price increase of 10.25% for the year. Software, maintenance, engineering and education are also going up. Maintenance on all items—apart from 4381 and 308X mainframes—is going up 8% as of January 1 1991, and maintenance on all AS/400 processors will rise by 15%. On the software side, IBM announced that licences would be billed quarterly, in advance. Education course fees will go up 10%.
- ❖ In the U.S., 3Com has extended the three year warranties on its Etherlink adapter product line to limited lifetime policies. The policies apply to equipment sold by original equipment manufacturers, VARs, company dealers and distributors. 3Com officials claim that Etherlink adapters average 70 years between failures. ■

About INPUT

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INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Service Update

Route:

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IN THIS ISSUE:

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- 13 Snippets
- 14 Questions from the U.S.
- Special Insert Concept Update

"HELP!" Enhanced Maintenance Protection from EMP

HELP! is a new service concept, backed by insurance, that was launched into the computer services market in July of this year by EMP Ltd. and underwritten at Lloyds of London. The new value-added maintenance service product, which is designed to operate in conjunction with a maintenance contract, indemnifies the service provider against all the costs involved in returning a system to its original operational status, regardless of the cause. The product integrates the aspects normally offered by traditional maintenance and insurance and provides the service through a response-based value-added maintenance contract. By considerably enhancing and extending the facilities offered by the standard hardware

maintenance contract, the company believes that this product is able to provide the user with, in EMP's own words, "the ultimate peace of mind"!

However, far from giving customer services providers yet more problems in the form of another new source of competitive pressure, HELP! works in partnership with the maintenance provider's standard service by providing a value-added maintenance contract for the end user which also, EMP claims, significantly benefits the customer services vendor.

The Product

The letters EMP which form the company's name stand for "Enhanced Maintenance Protec-

tion," which describes the key concept behind HELP! The product itself aims to give the maintenance provider the ability to offer customers a "complete recovery-from-disaster service package." It replaces users' traditional insurance with a response-based service, including a replacement system when required, from the service provider. The end user will always receive the service and the service provider is indemnified against the costs involved in providing those services. Exhibit A lists the key elements of the package offered to the users.

Preventive and general maintenance services are elements of the package which are provided within the terms of the existing

Continued on next page

"HELP!" ...from page 1

maintenance agreement and do not form part of HELP!, which is concerned with breakdown and general insurance provisions.

Breakdown insurance is of key interest to the maintenance provider. Under the terms of a standard maintenance contract, the service organisation carries the cost of parts and labour used in repairing failed equipment. The unpredictable nature of component failure implies that such costs must be considered by the provider as variable, leading to difficulties in financial planning. The breakdown insurance element of HELP! allows the servicing organisation to recover the costs of parts, labour and travel incurred in attending an equipment breakdown call. The cover therefore gives the maintenance provider the option to account for the policy charge as a fixed cost, resulting in obvious improvements in financial control.

The general insurance component of the product is the principal means by which the user benefits from the policy. HELP! provides the servicing organisation with the ability to provide a comprehensive repair and hardware replacement service in response to problems caused by fire, flood, theft, or accidental or malicious damage. Currently, users have to include cover for such contingencies within their contents insurance policies. Exhibit B summarises the results of research conducted by EMP into the level of insurance taken out to cover problems of this nature.

Exhibit A

HELP! Provides 'All Eventuality' Cover

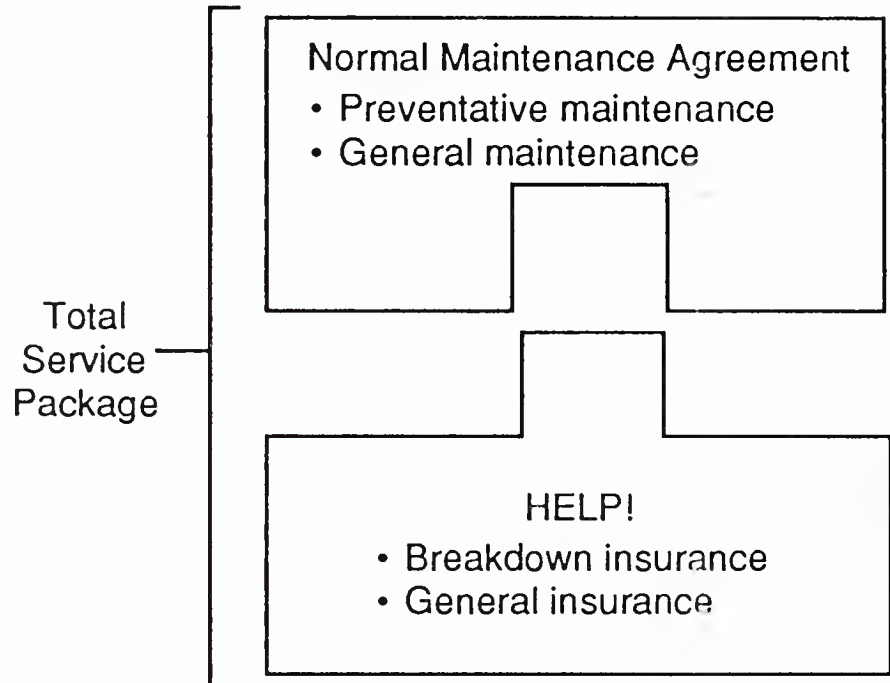


Exhibit B

Estimated Level of Insurance Coverage for Computer Installations (Percent)

No coverage	43
Inadequate coverage	37
Correctly insured	20

Source: EMP Ltd.

The results of EMP's research indicate that up to 80% of computer installations are, at best, inadequately insured. The general insurance element of the product gives the maintenance provider the opportunity to attack the potential market indicated by these figures with a service which significantly extends the scope of the traditional maintenance contract.

Exhibit C lists the contingencies covered by the general insurance package.

EMP claims that HELP! is the most comprehensive disaster recovery cover package on the market. By offering HELP!, the maintenance provider is able to present a single service package to customers offering both

equipment maintenance and comprehensive disaster insurance.

Marketing the Product

Having defined the key aspects of the product, it is worth giving some attention to some of the other principal elements of the marketing mix that have been developed for HELP!

Price - The company maintains that the cost of cover is extremely competitive in relation to comparable products offered by standard insurance companies. Exhibit D details the pricing structure and current costs.

The prices quoted are those paid by the maintenance provider to EMP. It is up to the provider to decide how much of the premium price to pass on to the customer, thereby permitting the utilisation of a number of promotional pricing policies.

Target Systems - The company is primarily aiming HELP! at the PC, mid-range and communications markets, in which it includes all equipment that will physically function in a normal office environment. Such a definition includes laptops as an agreed proportion of total equipment insured, but does not include any hardware for which a controlled environment is specified by the manufacturer. Large mainframes and supercomputers would, typically, fall outside the scope of the product, but cover for these machines is currently being developed. Equipment operated on a factory floor or in a warehouse environment would also be excluded.

Exhibit C

Coverage Provided by the General Insurance Package

- Accidental damage
- Malicious damage
- Loan equipment/rental charges
- Reinstatement and data conversion
- Equipment loss or damage
- Immediate repair costs
- Transit cover
- Consulting engineers' fees
- Debris removal/further damage protection
- Automatic reinstatement of sum insured
- Automatic cover for replacement items

Exhibit D

Cover Costs

	Percent
Under £10,000	4.00
£10,001 - £25,000	3.25
Over £25,001	2.50

Costs are based on the replacement value of equipment for the end user.

Sales Channels - EMP Ltd. will only supply the product to maintenance providers. It does not deal directly with end users at all. The easiest analogy to draw when explaining the distribution mechanism of the product is to consider EMP as the wholesaler and the maintenance provider as the retailer.

Maintenance Contracts - A key condition of the cover is that all customers who wish to take advantage of HELP! must be in possession of a valid maintenance contract for the equipment that they wish to insure.

Continued on next page

"HELP!" ...from page 3

Geographic Coverage - Currently, the product is only available in the U.K. However, EMP is planning to extend the geographic coverage of HELP! to mainland Europe very shortly.

Benefits of Help

EMP is keen to stress that very considerable benefits can be derived from HELP! for both the maintenance provider and the user.

In the case of the provider, the advantages of operating with HELP! include, but are not confined to the following:

- **Unique Selling Proposition.** The ability to offer HELP! to their customers gives maintenance providers a significant unique selling proposition over their competition. The comprehensive nature of the service offered by the product, coupled with the fact that it can only be provided by the servicing organisation, can be seen as a distinct competitive advantage in competing for or retaining business.
- **A Promotional Tool.** HELP! offers the equipment maintenance provider a promotional tool to encourage small systems users to take out maintenance contract on their equipment. The increasing tendency to regard PCs, in particular, as reliable commodity products has led to a questioning of the need for fixed-price maintenance contracts. However, the disposable nature of a com-

modity product does not alter the fact that, for many users, the systems run on their equipment are vitally important to the functioning of their business. By combining the standard maintenance agreement with the facilities offered by HELP!, the maintenance provider is able to offer a level of service aimed at servicing the business as a whole, rather than the ability to repair, under defined circumstances, a piece of equipment which increasingly does not go wrong. An additional benefit of EMP's product to the maintenance provider is that it enhances the chance of contract retention at the end of the contract term.

- **Improved Financial Planning.** The breakdown insurance element of the product permits the servicing organisation to treat the charges of HELP! as a fixed cost, as opposed to having to manage the variable costs of parts and labour inherent in servicing a breakdown. The improved financial planning offered by HELP! should be considered a significant benefit.
- **Pricing Flexibility.** EMP stresses that the proportion of the charge passed on to the user is left entirely to the discretion of the service provider. It should be noted that the provider is permitted to charge more than the cost to them. This level of flexibility permits the introduction of a range of promotional pricing policies, which could

be utilised in marketing the full service provided by the maintenance vendor.

Some of the more obvious benefits to the user are as follows:

- **Security.** The principal benefit offered is the greatly increased level of security available to users for equipment, software and data and, particularly, the business operation. In the event of a disaster, a user would be able to concentrate more resources on continuing to run the core business.
- **Response Times.** The speed of assistance provided to the user in response to a disaster is many times faster than that provided by an insurance company. No assessors are involved—the customer simply logs a call with the maintenance provider in the same way that he would raise a standard fault call.
- **"One-stop" cover.** By subscribing to HELP!, the customer arranges for complete computer systems protection and maintenance cover with a single supplier—the maintenance provider—thereby reducing the administrative overhead involved in protecting assets and the business.
- **Price.** EMP stresses that the price of the package compares very favourably to standard insurance policies offering a similar level of cover.

Operational Issues

Having described the essential elements of HELP!, how does the scheme operate in practice?

The first point to stress is that there is no direct contact between EMP and the end user. The maintenance provider enters into a contract with EMP to become a supplier of the scheme, which is combined with the standard maintenance contract.

On becoming a supplier of HELP!, the maintenance provider will receive training and product marketing materials and assistance from EMP to help in promoting the concept to the user.

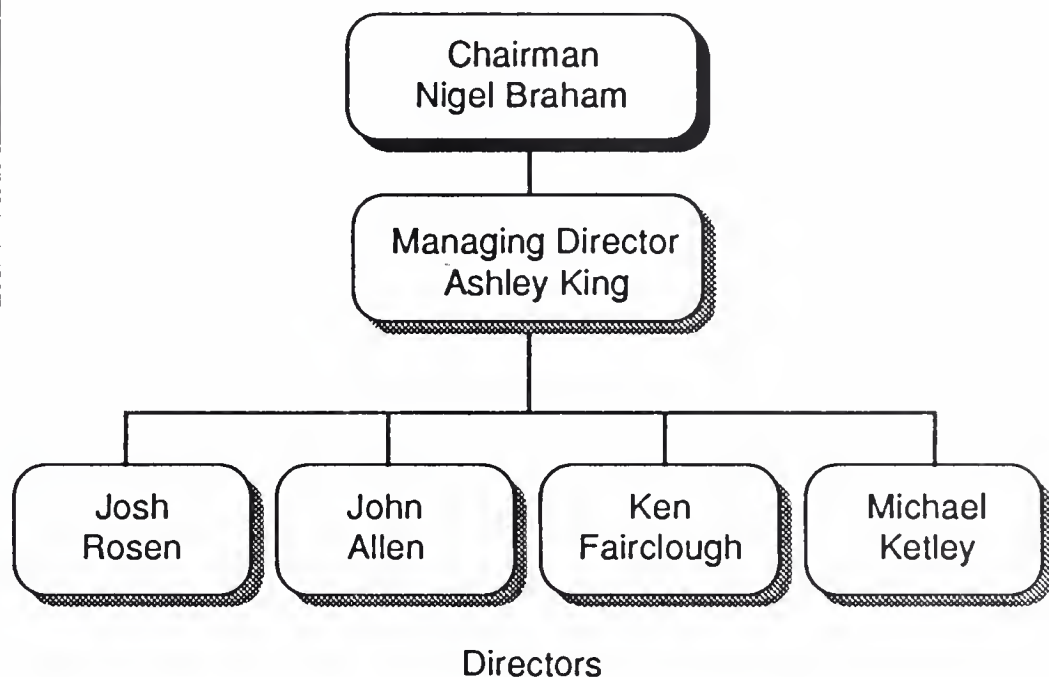
In the event of a problem occurring to the insured equipment, the user raises a fault call in the normal way. Under the terms of the cover, the maintenance provider commences work without the need to gain authority from EMP. The maintenance provider completes the necessary documentation and returns it to EMP. EMP has the capability to process the claim and is aiming to be able to settle all claims in 7 to 14 days. The scheme therefore permits action to be taken on a major disaster in the same timeframe as a standard fault call. Speedy settlement is designed to ensure that the cash flows of the provider are not adversely affected.

The Company

EMP Ltd. is a new company formed specifically to develop and market the idea that evolved into HELP!. Exhibit E

Exhibit E

The Management Team



lists the key personnel of the company, who combine experience in financial services, computer maintenance operations and management consultancy, ensuring that the company has the requisite skills to market such a product.

The product was launched in July of this year after a period of 18 months spent researching the market and satisfying the requirements of Lloyds of London.

Relationship with Lloyds of London

EMP is a "correspondent" for Lloyds which, in simple terms, means that the company develops and markets its own insurance based products, which are 100% underwritten by Lloyds. Exhibit F shows the relationships between the parties involved in HELP!. EMP is particularly keen to stress the

importance of its relationship with Lloyds because the fact that HELP! is underwritten by the most famous and probably the most respected insurance organisation in the world gives it a distinct competitive edge.

Comment

INPUT believes that, potentially, this product has a very significant role in the ongoing development of customer services products, particularly in relation to the small and medium-sized systems segments. Although insurance products do exist that cover the area of disaster recovery, INPUT is of the opinion that HELP! offers two features that place it apart from alternative insurance offerings.

Firstly, the speed of response to recovery from disaster is governed by the disciplines pertain-

Continued on next page

"HELP!" ...from page 5

ing to the customer services environment—not the insurance industry.

Secondly, the partnership between HELP! and the standard maintenance offering of the provider, which is intrinsic to

Although a number of significant benefits can be derived from the concept, it is worth considering a couple of cautionary points. Although the product does offer the maintenance provider a "unique selling proposition" it is obviously only unique if it is not adopted by direct competitors. Should demand for the product acceler-

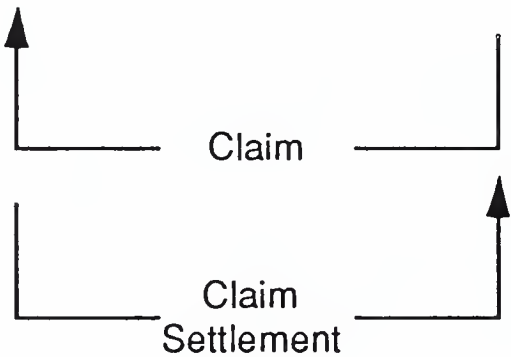
sized users should not be underestimated. EMP itself has appreciated this point and has placed considerable emphasis on the provision of marketing assistance and advice to the maintenance provider.

On balance, however, INPUT believes that HELP! is an important product for customer

Exhibit F

The HELP! Relationships

Lloyds of London	EMP Ltd. The 'Correspondent'	The Service Provider	Contract Customer
Underwrites the risk	Develops and markets the product	Provides the service	The covered party



the concept of the product, provides the user with an extremely comprehensive service that is also very simple to administer.

From the maintenance provider's perspective, INPUT believes that the key advantage to be derived from HELP! is the ability that the product provides to market a comprehensive customer service package which, above all, is targeted at serving the user's business, not simply the computer systems equipment.

ate rapidly, the competitive advantage gained from offering the product would rapidly be converted into a competitive disadvantage for those who do not supply it. Secondly, it should be noted that the success of the product to the maintenance provider is dependent upon his abilities to sell the need for a disaster recovery service to the end user. For many users of small systems, the concept of data backup seems to remain an alien notion and, therefore, the difficulties of selling disaster protection to small to medium-

services organisations to consider in terms of the considerable benefits it offers to both the maintenance provider and to the user.

If you would like further information on HELP!, please contact Michael Ketley at:

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172/174 Granville Road,
London, NW2 2LP.
Telephone: 081-458-0047
Fax: 081-209-1139 ■

Hewlett-Packard Service Offerings—A Review

Hewlett-Packard has long prided itself on consistently being among the most highly rated service suppliers of the major computer manufacturers. The purpose of this article is to summarise the company's current service offerings, both in terms of the service products themselves and the HP service philosophy. Exhibit G details the key elements of the total service package and illustrates the inter-relationships that exist between the services—all of which contribute to the core product, Computer Support Services.

In addition to the importance attached to the modular nature of the service offerings, HP places very considerable emphasis on the equal attention given by the customer services providers to the predelivery phase of the relationship with the customer and to the provision of implementation and ongoing operational support. The importance attached to the ongoing nature of this relationship is illustrated by the fact that a customer engineer, an applications engineer (responsible for software) and a sales representative are all assigned to an installation project from the planning phase to implementation.

The following description of the component elements of the package will serve to illustrate the central importance of these two approaches to the HP service philosophy.

Computer Support Services

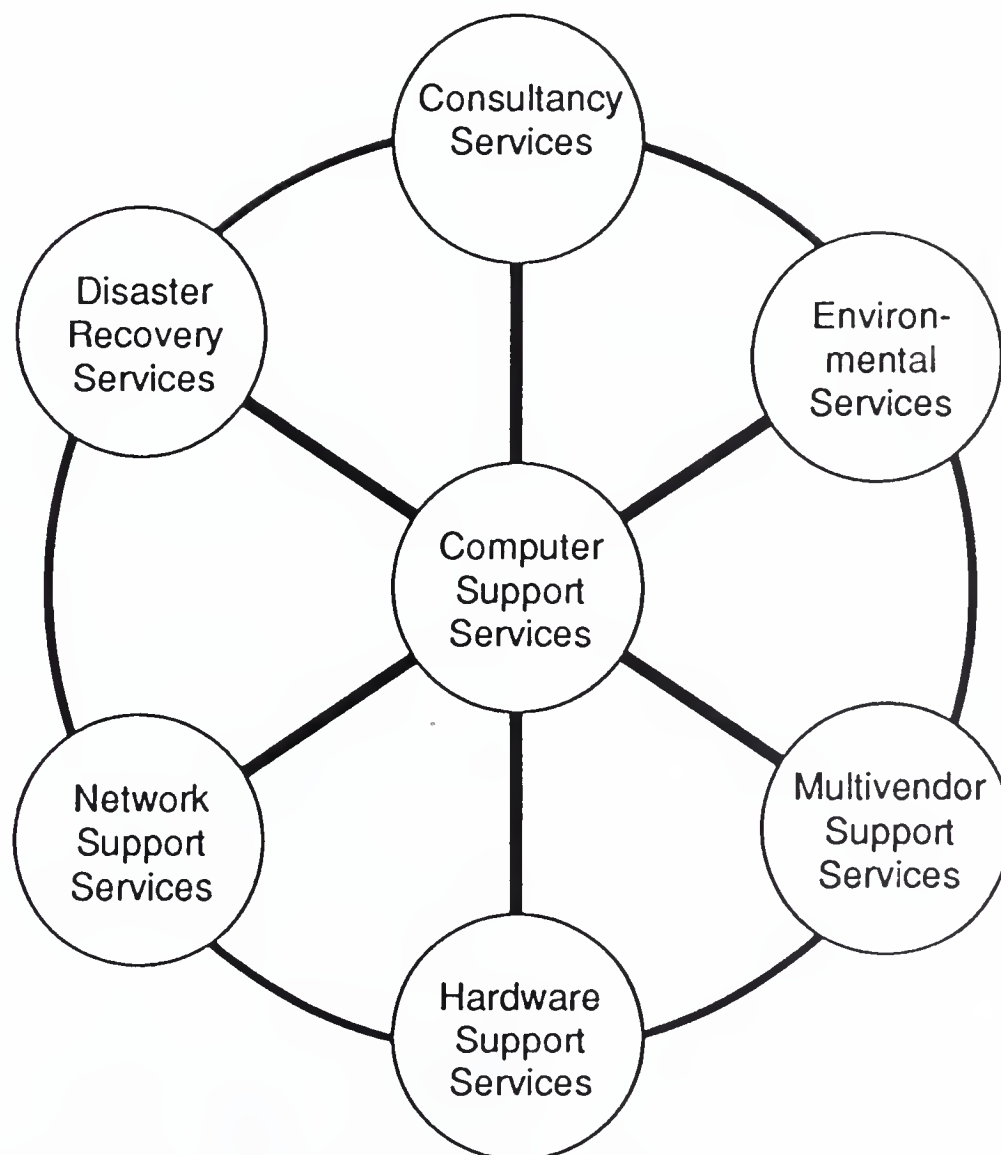
The Computer Support Services product is the core of the HP service package, into which the other service modules feed when required. It divides the customer's service requirements into three phases; Systems Planning, Implementation, and

Operations, and provides a good illustration of the equal emphasis placed by the company on the full range of the customer's technical service needs.

The *planning* element is the starting point of the whole service operation and is dedicated to assisting customers in accurately assessing their

Exhibit G

The HP Service Product



Continued on next page

HP Offerings...from page 7

requirements. Exhibit H outlines the services that can feed into this process.

The *Consultancy Services* option is concerned primarily with defining systems requirements and the provision of technical expertise to assist with, for example, network design.

Project Services is responsible for supplying the customer with project management expertise and is generally staffed by people with skills in managing projects related to specific industry sectors.

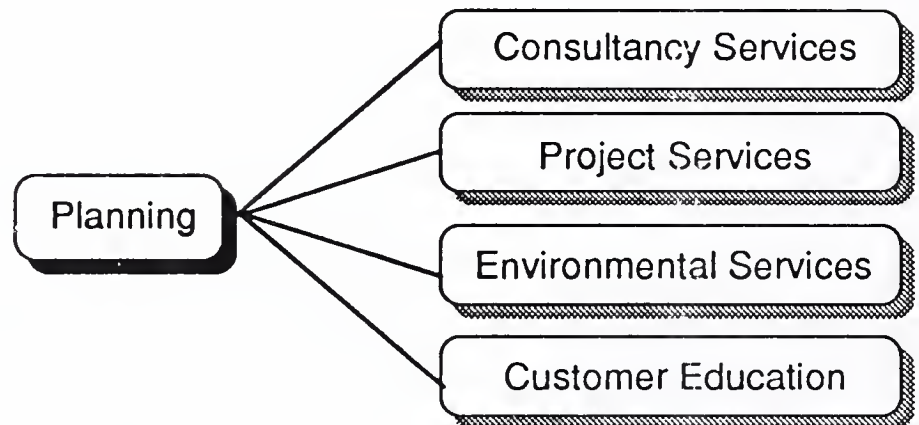
Both *environmental services* and *customer education* can be involved in the planning phase of a system installation if required.

Exhibit I illustrates the *implementation* phase of the Computer Support Services offering. It can be regarded as a logical extension to the services provided in the planning stage. The site planning and installation services together with consultancy services include modules designed to ensure efficient systems implementation and the successful introduction of the technology into the business operation. The "network prepare" option, for example, is a service designed to ensure the smooth introduction of a networking solution into the user's working environment.

The *operations* element within the package is concerned with ongoing hardware maintenance, software and network support and related services. Exhibit J details the elements of the HP

Exhibit H

Customer Support Services The Planning Phase



operations package. The *hardware maintenance support* package, in addition to including standard hardware repair, the details of which are contained in Exhibit K, also includes "Predictive Support" for the HP 3000 system, which allows warnings of problems derived from the system error logs to be transmitted to the HP response centre for action, thereby significantly reducing the likelihood of unscheduled downtime.

The *escalation management* system employed by HP involves the use of increasing levels of support expertise. Second-level support for critical problems is triggered if the cause of a problem has not been isolated after 4 hours and third-level assistance is involved at 8 hours.

Software Support Services offers three levels of service intended to match the full range of technical proficiency of the customer base. The base level, known as "HP Baseline," provides access to the HP worldwide support

database and the right to use software updates and documentation.

In addition to the services included at the Baseline level, "HP Responseline" includes access to the company's electronic support line, which allows the user to submit calls to the service electronically. Responseline also includes the use of the HP Customer Response Centre, covering telephone support assistance, software problem escalation management and the use of remote diagnostics.

The third level of support, called "HP Teamline," adds the services of a support consultant to the lower levels of service provision. The consultant will assist the user in areas such as reviewing systems performance and planning future requirements.

In addition to these standard offerings, HP can offer individual support contracts under the heading of the "HP Custom

Concept Update

An update to an article in INPUT's *Service Update*, October 1990

Last month, INPUT published an article about Groupe Concept and notified its readers that additional information on the company was forthcoming. This is an update on the situation.

On October 30, 1990, Concept SA stunned the Paris bourse by announcing half-year losses equivalent to \$35.9 million. Trading in Concept shares has been suspended pending official announcement of the figures. The company expects operating losses of up to \$40 million, plus exceptional items of \$60 million, including \$20 million for accelerated depreciation, \$20 million for acquisition costs and charges for lay-offs at CCMC and for closing an office in Nancy. Concept blames the losses on the problems related with managing its fast growth (revenues have grown a hundredfold since 1985) and managing all the acquisitions made between 1988 and 1990.

In order to face its problems Concept has undergone a complete re-organisation. Today the Group includes 3 main areas and 4 distinct companies:

- Products and services to professional accountants and to small and medium-sized companies: CCMC
- Products and services to large companies and groups: SCE & Technic Informatique
- Third-party maintenance: Spectral MIS

Changes which have occurred since INPUT published its article include:

- 1) The sale of SCBF banking and service division to Altus Finance
- 2) The sale of SACI office equipment distribution business (formerly part of CCMC) to Fiducial Group
- 3) Spectral MIS operating as an independent unit no longer under Technic Informatique
- 4) Concept no longer operating or selling its services in the U.K.

The sale of the two companies reduced Concept's debt by \$144 million to \$150 million, nearly halving its annual interest payments.

These events alter the exhibits shown in the previous article as follows:

Exhibit C Organisation Chart

SACI and SCBF no longer figure and Spectral MIS is on the same level as CCMC, SCE and Technic Informatique. Shareholding in the various companies does not change.

In spite of this major setback, the company is confident of profitability for 1991.

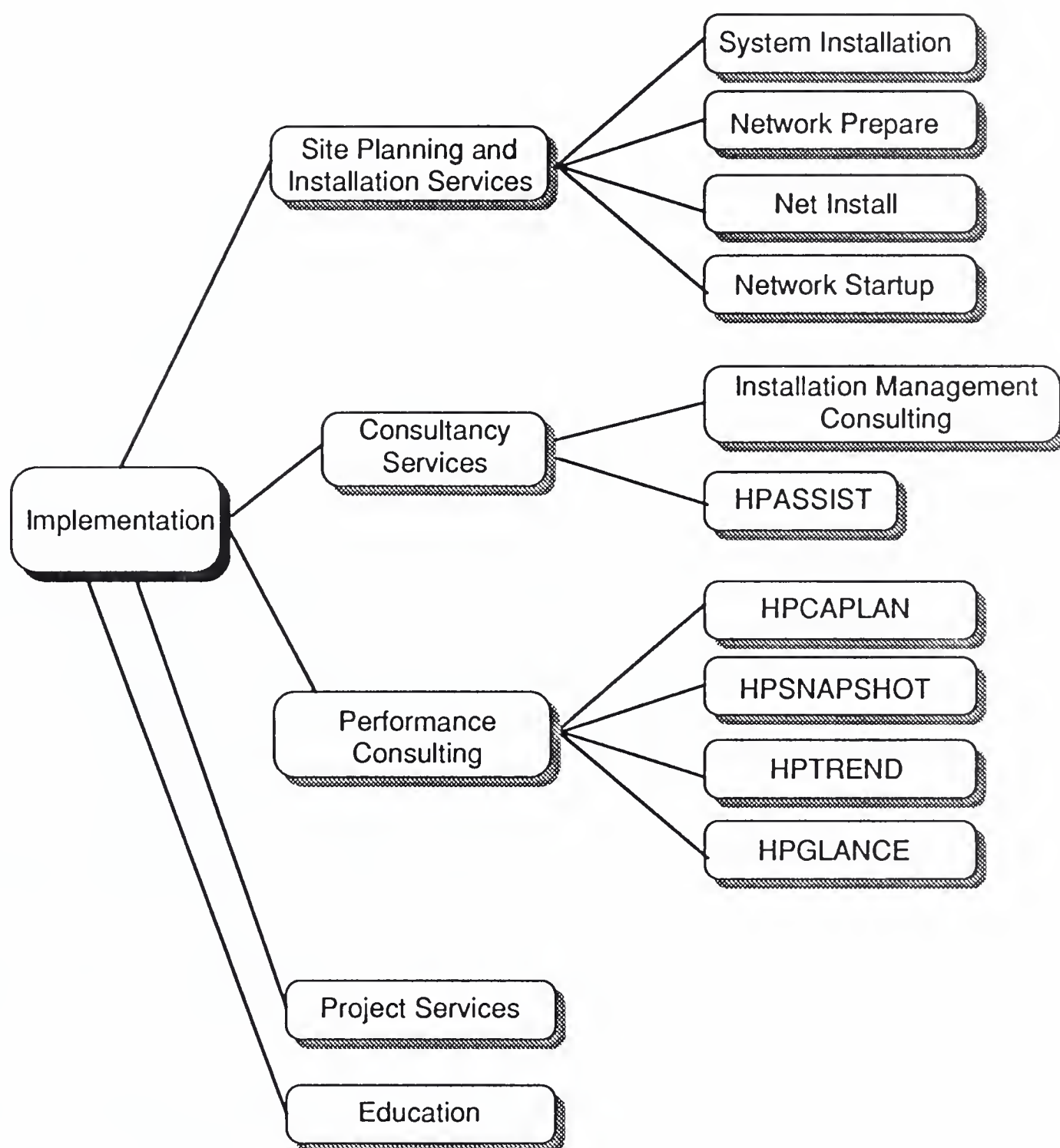
Exhibit H

Groupe Concept 1990 Forecast (\$ Millions)

	Revenue	Growth from 1989	Net Profit	Percent
Groupe CCMC	200	-11	NA	NA
Technic Informatique	106	-	-	-
Groupe SCE	210	30	14	6.2
Spectral MIS	53.1	-	27	9.5

Exhibit I

Customer Support Services The Implementation Phase



Support Plan.” These contracts can incorporate the provision of such services as training, specific project or design consultancy, or the undertaking

of periodic performance reviews.

Data Protection consultancy services offer “HP Safeguard”

and “HP Security.” Safeguard is concerned with using the existing security features of the system and the design of effective

Continued on next page

HP Offerings...from page 9

tive operating procedures to minimise the risk of data loss or corruption. Security is concerned with the application of software tools to minimise unauthorised access to data.

The remaining elements of the operations phase of the Customer Support Services product exist as specific services in their own right and are described below.

Exhibit J

Customer Support Services Operations

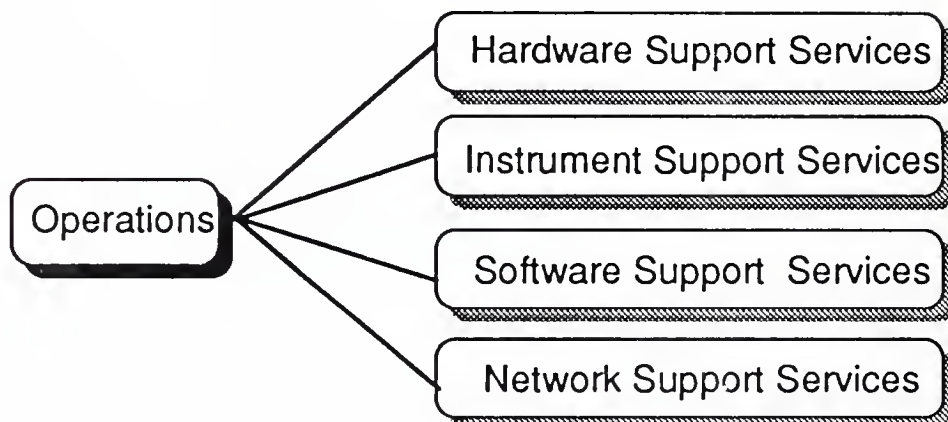


Exhibit K

Maintenance Package

Hardware Maintenance Packages:

	Coverage	Response	Options
Guaranteed uptime service	24 hrs. a day, 7 days a week	4 hrs.	
Standard system maintenance	9am-9pm Monday to Friday, excluding HP holidays	4 hrs.	Extended coverage
Basic system maintenance	9am-9pm Monday to Friday, excluding HP holidays	1 working day	Improved response time, after-hours coverage service

Hardware Maintenance Packages for Workstations Only:

	Coverage	Response	Options
Priority on-site service	9am-5pm Monday to Friday, excluding HP holidays	4 hrs.	
Next day on-site	9am-5pm Monday to Friday, excluding HP holidays	1 working day	Improved response time, after-hours coverage service
Scheduled on-site (min. 25 workstations)	1 weekly visit		
Customer return service		<3 days	

Consultancy Services

Exhibit L details the major areas of expertise covered by HP Consultancy Services. The areas covered by the service can essentially be divided into applications and design products such as Engineering Automation Applications or Networking, and products targeted at maximising the performance and operation of the system. Information Management, System Security & Management and Client-Server Computing are the principal examples of this element of the service.

Environmental Services

The Environmental Services element of the company's service product covers the full range of requirements for housing systems equipment from cable installation to the design and construction of fully equipped computer rooms. Exhibit M defines the full range of services offered by HP from site selection to commissioning.

Multivendor Support Services

HP's multivendor support offering works in parallel with the standard hardware maintenance and software support facilities that form part of the Computer Support Services Programme. The company claims that it can support and maintain "all major brands inclusive of PCs, peripherals and PC-LANs." Specific manufacturers' products in which HP specialises include the following:

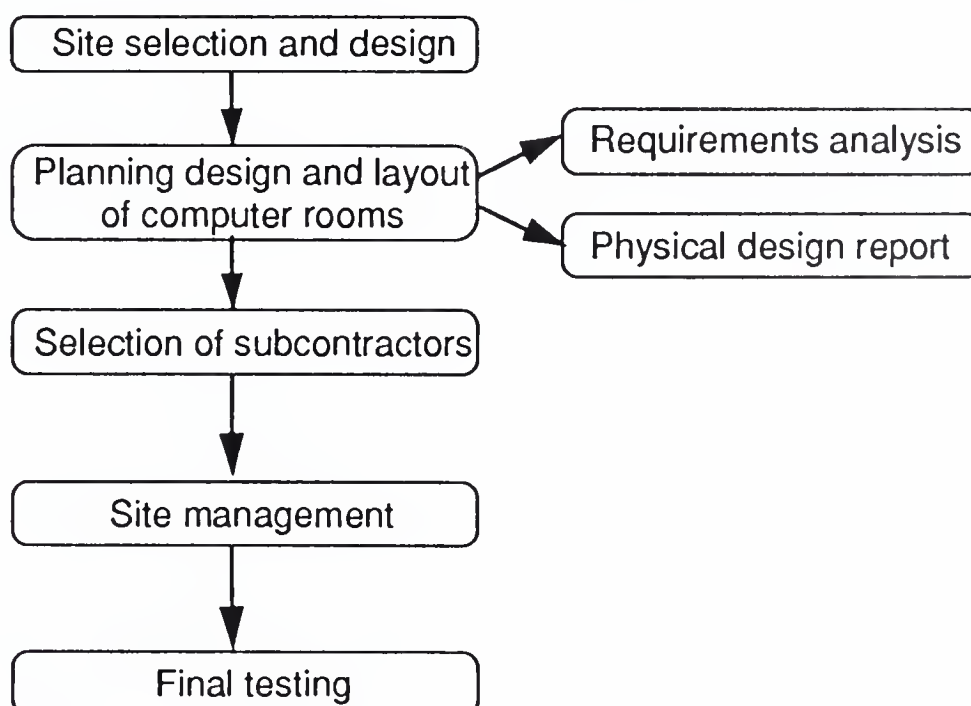
Exhibit L

Consultancy Services Offerings

- Applications/design products
 - Engineering automation applications
 - Manufacturing and finance applications
 - Networking
- System performance/operations
 - Performance
 - Information management
 - System security and management
 - Client-server computing
 - Education

Exhibit M

Environmental Services



Continued on next page

HP Offerings...from page 11

- Novell
- 3COM
- IBM
- Apple
- Compaq
- Tandon
- Epson
- Toshiba

The service covers access to the HP Response Centre and on-site assistance.

In offering this service, HP claims that the user can derive considerable benefits from the use of a single contact who retains complete accountability for a total installation.

Hardware Support Services

In addition to the hardware maintenance services included as part of the Computer Support Services module, the company includes the repair, servicing and calibration of its test and measurement equipment within the overall service offering.

Network Support Services

The Network Support Services option covers the full range of network consultancy requirements from planning to commissioning. The company stresses that all HP networks are "open systems" based upon industry standards, allowing the company to incorporate a wide range of vendors into flexible networks. The methodology employed in implementing the services is detailed in Exhibit N.

Exhibit N

Network Support Services The Process

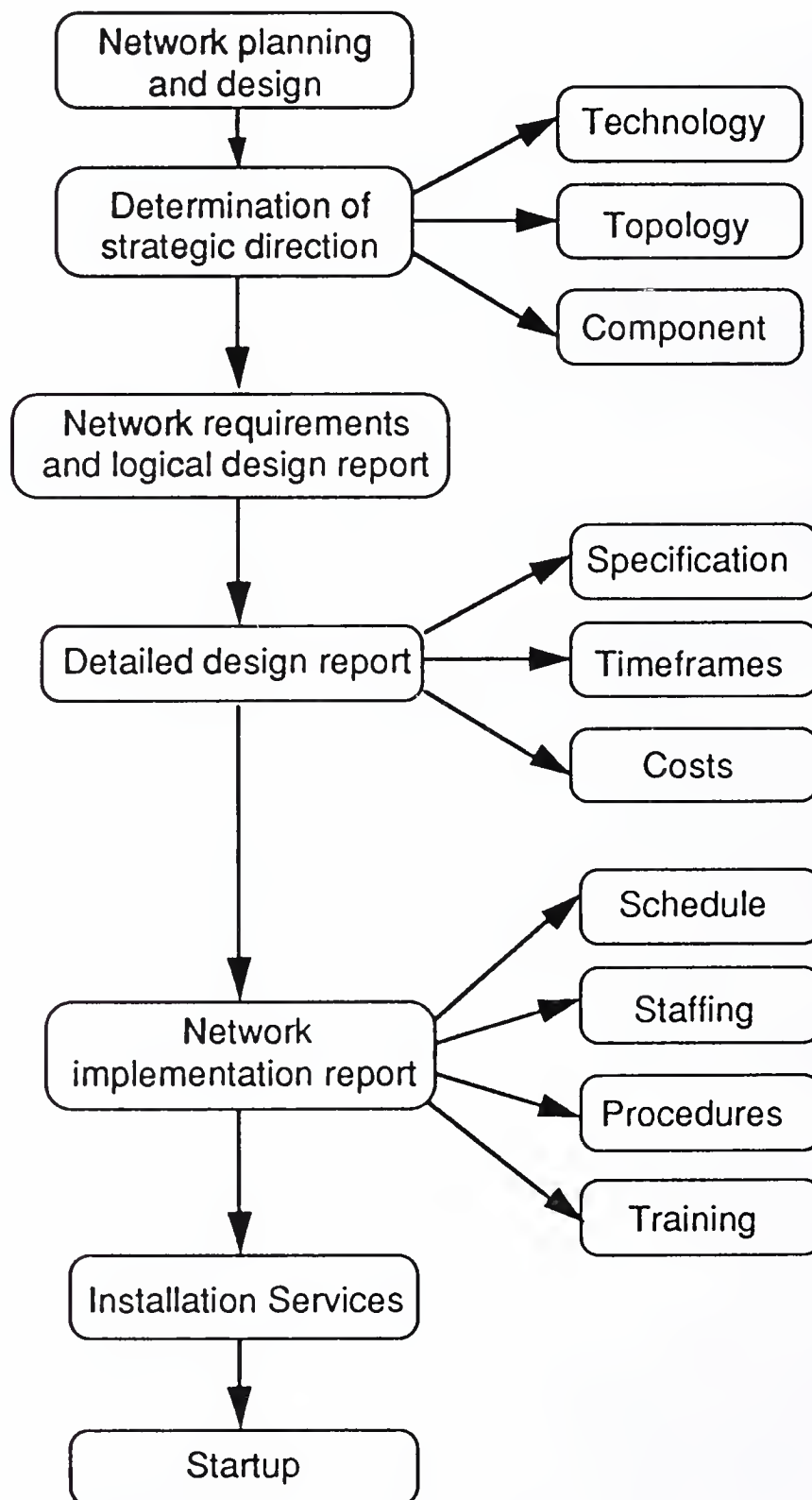
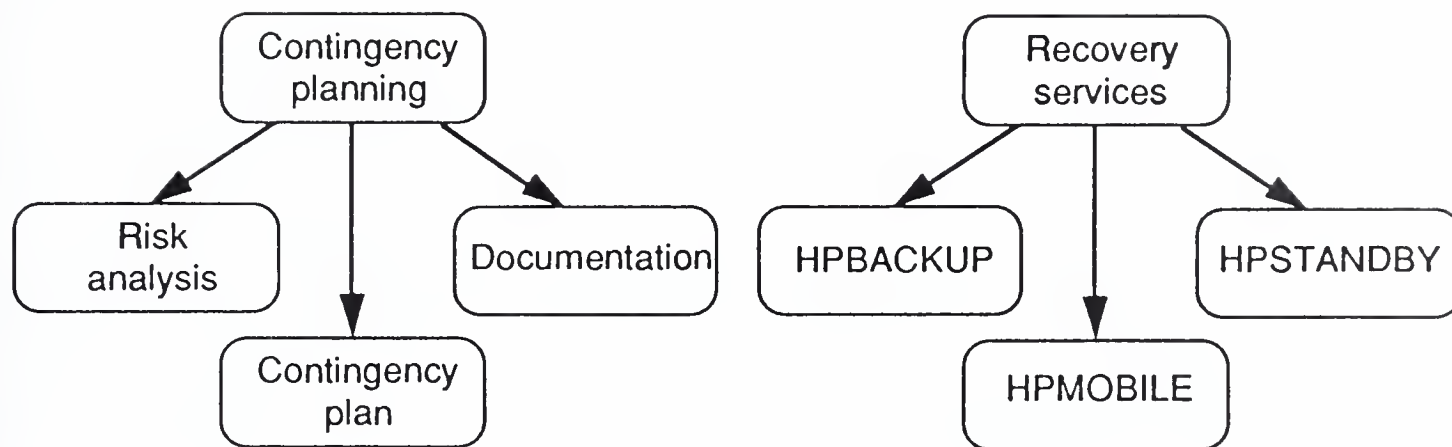


Exhibit O

The Disaster Recovery Service

Range of Services



The Disaster Recovery Service

"Ninety percent of companies that suffer computer failure go out of business within one year" is one of the phrases that is used by HP to promote the disaster recovery service. The service itself was started in 1986 and can, therefore, claim to be one of the longest established disaster recovery options offered by the major manufacturers.

Exhibit O details the principal elements of the package, which

can be divided into two sections. Firstly, HP will assist in contingency planning for a disaster either through consultancy or a formal training course.

Secondly, the company provides the disaster recovery services itself. The premium service, HPBACKUP, is available within 24 hours of a disaster and provides round-the-clock access to an HP system housed in a purpose-built, fully equipped disaster recovery suite.

HPMOBILE, available to a limited number of subscribers, will provide a fully configured system and the necessary environmental equipment delivered to the user's site within 24 hours of a disaster alert. The system will be installed and tested by HP staff and is available 24 hours per day.

HPSTANDBY provides the same facilities as HPMOBILE except that the system is delivered to an "HP-approved facility" that already contains the necessary environmental equipment. ■

Snippets

❖ DIGITAL has won a five-year contract to both supply and run the network of WH Smith Group PLC, a major U.K. retailer. The contract is estimated to be worth \$28 million.

❖ Group Francais D'Informatique, the French

subsidiary of SD-Scicon PLC, has purchased a 51% stake in Charbonnage De France Informatique, formerly a subsidiary of the state-owned coal producer, for approximately \$5.5 million. As a result, Groupe Francais has become France's largest facilities management company.

❖ James MacDonald, the head of Prime Computer Inc. has indicated that the company intends to move into third-party maintenance and disaster recovery operations.

❖ Allied Dunbar, the U.K. insurance company, has announced that it is to set up its own maintenance operation and dispense with the

Continued on next page

Snippets...from page 11

services of Granada. The company believes that it will prove to be more cost-effective to carry out maintenance itself by swapping out failed components.

Snippets from the USA

- ❖ Another recently announced agreement for the acquisition of TRW Customer Service Division by Phoenix Technology Inc., Valley Forge, PA. The sale is expected before 30 November 1990, pending regulatory approval. TWR CSD employs 1,250 people in offices across the U.S. and had 1989 sales of approximately \$120 million.
- ❖ Announced at DECWorld'90 was Digital Equipment Corp's Advanced Electronic Support (AES), electronic support for network customers running under the VMS operating system. AES features include VAXcim Plus monitoring software, access to DEC's technical databases, and DSNlink software, which allows customers to access DEC's Customer Support Centres (CSCs).
- ❖ Granada Computer Services continues to increase its presence in the U.S. field service market with the recent purchase of React Corp. React Corp, with 95 employees and 1989 revenues of approximately \$10 million, provides maintenance service on Unisys and Burroughs equipment.

❖ Other recent acquisitions include the acquisition of New Jersey-based R & M Associates by Delta Compatec. R & M will operate as a wholly owned subsidiary of Delta and will retain the R & M name. This recent acquisition makes Delta one of the largest third-party maintainers in the New York area.

❖ TRW Customer Service Division has announced three new support programs, called Advantage I, II and III. Advantage I offers unlimited VAX/VMS software training for up to 10 registered students per year for a single fee. Advantage II will offer many of the same services and is geared towards smaller users, while Advantage III is targeted at larger customers. ■

Questions from the USA


Question:

What type of service is available on Amdahl's mainframes?

Answer:

Amdahl's Customer Services Centre is available toll-free, 24 hours a day, allowing access to service experts and diagnostic tools. Amdahl CPUs, storage devices, and communications processors and controllers have built-in error recovery diagnostic systems, which can run diagnostic routines, record event errors, and identify failing components. Some products also have on-board modems, allowing remote trouble-shooting and software fixes through Amdahl's Diagnostic Assistance Centre (AMDAC). Amdahl service also includes preventive maintenance, trouble-shooting, replacement parts, a designated Amdahl site representative, and on-site service.

Question:

How are laptop computers used in the field by service engineers?

Answer:

IBM: The FEs use a hand-held unit for administrative purposes and problem tracking. The FE enters the client name and specifies the type of equipment and the problem. At the end of the day, the information is uploaded to the host system for analysis of equipment reliability.

HP: Hewlett-Packard does not use laptops of any sort for its FEs. Most HP machines are already linked to the Response Centre, so the FE can directly link to the diagnostics and trouble-shooters at the centre. The HP 3000 machines have predictive maintenance systems, which are also linked with the response centres.

Bell Atlantic Business Systems Services: Bell Atlantic is currently testing the feasibility of using laptops in the field, both for administrative and diagnostic purposes.

TRW: The FEs will shortly begin using laptops for diagnostic purposes. Only those FEs that service bank ATMs, microcomputers, and network systems will use them. At the client site, the FE will dial up the host TRW machine (using an 800 number), feed in the problem, and a suggested solution will be sent back.

Digital Equipment Corp: Digital does not use laptops yet.

Intelogic Trace: The FEs use a new diagnostic tool called "Tech-in-the-Box." It is a portable PC/AT clone with special hardware and software features that allow IT Novell-trained customer engineers to test and repair microcomputer components and peripherals without bringing the network down. By using the computer's built-in modem, the FE can access Novell's NetWire technical information service, the Technical Encyclopedia of Computer Hardware and Software (TECHS), and Novell's Technical Information Database.

Question:

From XL/Datacomp's perspective, what is the main difference between its XL Support Plus and IBM's System Xtra?

Answer:

XL/Datacomp feels there are two types of support: the first is defect management, where there is "broken" code, or the potential for it, and the customer has identified the problem through error codes. The problem is then fixed by a PTF. Defect management also includes the installation of new releases and distribution of licensed material (i.e., manuals). The second type of support is planning, operational, and educational. For example, planning is required if a customer wants to expand a network, or wants to design a communications network. XL/Datacomp will help a client plan how many modems or how many terminals can be assigned per controller, etc. XL/Datacomp can also aid in planning the client's next application by identifying how much storage in main memory will be required if and when an upgrade should be ordered and installed to insure proper response time.

Operational support covers assisting client overcome difficulties in, for example, operating a printer or terminal. Educa-

tional support includes teaching or helping the client understand the functions of a new release or programmed product being implemented.

XL/Datacomp feels that its Support Plus plan adequately covers all of the above types of support through access to its toll-free number. The staff at the phone have the ability to answer any questions necessary to provide the support mentioned above.

IBM's Systems Extra, on the other hand, is (according to XL/Datacomp) set up as follows (as stated by XL/Datacomp): The client dials an IBM 800 number and a customer support representative finds out who would be the proper person to answer the question. Support is largely limited to issues of defect management. The staff answering the phones generally come from a CE (hardware-oriented) background, so they may not have full knowledge of the system or system management. When the client gets into planning questions or operational problems, the question is forwarded to a local branch office or agent. This increases the response time and usually costs a bit extra. ■

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, and systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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- 6Elmbrook Training Services
- 8Questions from the U.S.
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Olivetti Speaks Out

This month, INPUT is focusing upon the independent maintenance activities of Olivetti. By embarking upon a strategy of aggressively expanding both its independent and multivendor maintenance operations, Olivetti has largely succeeded in reaching the goal that has, to date, eluded its principal competitors—namely, the establishment of a solid revenue stream outside the traditional and declining hardware maintenance activity.

INPUT estimates that the European customer services revenue of Olivetti has grown by approximately 16% between 1989 and 1990 from a figure of about \$1200 million, compared with our estimated average growth rate figure for the overall European customer services market of about 8%. Impressive though

Exhibit A

European Independent Maintenance Operators by Revenue

Company	1989 Revenues (\$ Millions)
Granada	260
Olivetti	250
Thomainfor	70
Sorbus	60
Getronics	45

Note: Revenues attributed to Olivetti are for the independent maintenance activities of the group.

All figures have been rounded and are based upon INPUT estimates.

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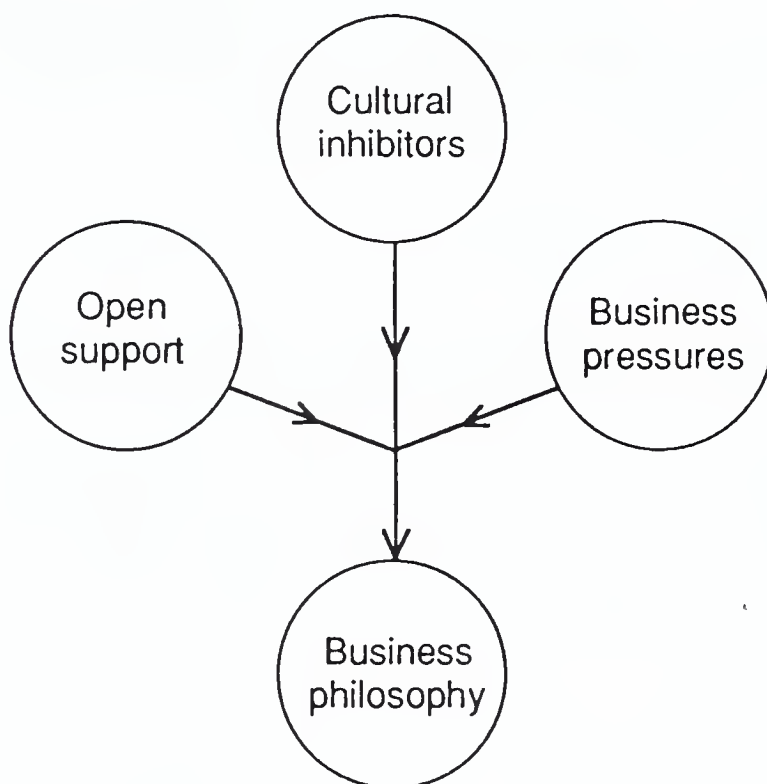
Olivetti...from page 1

Olivetti's growth rate is, a further illustration of the success of the company's strategy is that Olivetti's independent maintenance revenues—excluding multivendor operations—make it one of the leading independent maintenance companies in Europe. Exhibit A presents INPUT's estimates of the revenues of the major European independent maintenance operators.

strategy of acquisition. However, unlike its competitors, Olivetti has maintained an "arm's length" relationship with the companies that it has taken over, maintaining their independence and even allowing them to compete against each other. Olivetti's corporate profile within the independent maintenance business has, therefore, remained low. Secondly, the company stresses that achieving a given position within the competitive league table is not part of its strategic intent.

Exhibit B

The Business Philosophy Key Influences



The Olivetti Customer Service Business Philosophy

By achieving growth and market penetration, Olivetti can undoubtedly claim to have evolved a highly successful customer services business. The winning of a series of large and prestigious contracts—such as Barclays Bank and Boots, the retailing chain—in the U.K. indicates the scale of operation that Olivetti's independent maintenance arm is able to undertake.

How is it that, alone among the major equipment vendors, Olivetti has been able to successfully develop the core maintenance business into new sources of revenue? INPUT believes that the answer to this question is in the company's business philosophy.

Three key elements can be identified as contributing towards the development of the company's business philosophy, as illustrated in Exhibit B.

Having established the position of Olivetti within the hierarchy of vendors, two points are worthy of note. Firstly, as with the other leading vendors, Olivetti has largely achieved its position within the independent maintenance market through a

Business pressures include the problem areas that are now commonly accepted within the customer services business and are summarised in Exhibit C.

Most of these points are common knowledge within the industry. However, Olivetti maintains that the reticence displayed by the independent maintenance companies to develop alternative competitive strategies apart from the on-going reliance on competing purely on price is detrimental to the customer services business as a whole.

Exhibit D presents the cultural inhibitors Olivetti has observed as restraining equipment vendors from effectively expanding their service offerings.

Olivetti perceives that there remains within the organisations of many equipment vendors a degree of confusion as to which strategy and goals the customer services organisation should pursue. Recognition of the current pressures exists but no clear ideas have emerged on how to respond to them, which has led to what Olivetti terms an identity crisis.

Perhaps the clearest manifestation of the identity crisis is what Olivetti expresses as the "arrogance of account control", which can be considered as equipment vendors' ongoing priority to maintain control of their accounts in an attempt to protect revenues. Such an attitude fails to take into account either the current competitive pressures within the business or the attention being given to IT

expenditure by the senior management of user companies, and it can be regarded as a significant inhibiting factor to the development of new service attitudes and products. Olivetti argues that such an attitude will tend to reduce customer loyalty, thereby putting further pressure on revenues rather than serving as a successful defensive mechanism.

Exhibit C

Business Pressures A Summary

- Increased reliability of hardware
- Reduced cost of hardware applying pressure to maintenance revenues
- Independent maintenance suppliers creating pressure on revenues by gaining market share through competing on price
- The failure of independent maintenance suppliers to introduce value-added services that would lead to reduced price competition
- The increased visibility of IT expenditure at senior levels within user organisations

The final aspect of the company business philosophy is the concept of "open support", which Olivetti has developed in response to the growth of open systems. Alan Watson, the General Manager of Olivetti's Customer Support Group, defines the driving force behind open support as follows:

"We should use the growth of Open Systems and its increasing take-up by larger

Continued on next page

Olivetti...from page 3

organisations as an opportunity for users and suppliers alike to look more closely at the type and extent of support services currently available, and to define new and more encompassing programmes specifically relevant to open systems. Enter 'open support'...." (Alan Watson 15/10/90)

Firstly, considerable emphasis is placed throughout the organisation on the development and maintenance of meaningful customer relations in order to maintain an ongoing understanding of the extent to which requirements are being met.

Secondly, the customer services sales force is not trained to sell particular packaged solutions but to identify needs and to ensure that proposed solutions meet those needs.

Finally, the company does not promote its services through specific "customer care programmes" supported by glossy brochures. Olivetti's promotional strategy is to point to what it has done rather than what it intends to do.

Exhibit D

Cultural Inhibitors

- The "identity crisis" of the vendor
- The "arrogance of account control"

Olivetti has identified the importance of open systems as an opportunity to assist in the drive towards alternative service offerings, an attitude that can be regarded as an important element of its business philosophy.

This philosophy is simply the committed application of basic marketing concepts to the totality of the customer services business. At the root of this philosophy is the critical importance that Olivetti attaches to satisfying the customer's needs, which is the core tenet of basic marketing theory, and which is also an idea to which virtually every commercial organisation at least pays lip service. Olivetti claims, however, that this idea is the principal element of its service culture, a statement it supports with the following points:

The Service Package—"Credibility in Depth"

The company claims to have succeeded in achieving its position in the independent maintenance market largely through a policy of growth through acquisition. The principal objective of the strategy was to satisfy the following two requirements:

- To acquire technical expertise in strategically important areas
- To restrict acquisition activity to commercially viable target companies

Exhibit E lists the constituent companies within the Olivetti independent maintenance operation with a brief indication of their principal areas of operation.

Exhibit E

The Constituent Companies within the Olivetti Independence Maintenance Operation

Company	Mission	Location
Decision Systems International	To provide maintenance and systems support in the IBM and DEC mini markets To sell useful, life-enhancing add-ons, peripherals and second-user systems in the IBM and DEC markets To provide single-source maintenance for selected customers with multivendor environments	Belgium France Spain U.K. Germany Holland Italy Australia
Testpoint	Third-party maintenance	Canada
C.T.S. Comtech Service	Third-party maintenance with particular skills in networks and communications	Belgium
Dansk Data Installation	Network installation and maintenance specialist	Denmark
Oakley Computer Ltd.	Third-party maintenance in a Wang environment	U.K.
O.A.S.	Third-party maintenance in the AES, Wordplex and Wang environments	U.K.
Datronic Peripheral Systems	Third-party maintenance in the the DEC environment To sell useful, life-enhancing add-ons, peripherals and second-user systems in the markets	Switzerland
Ing. F. Iachiello & Co. Spa	Network installation and maintenance specialist	Italy

Continued on next page

Olivetti...from page 5

As has been previously indicated, acquired companies retain their identity and, to a large degree, their independence of operation. The principal responsibilities of the head office function can primarily be considered as twofold:

- To ensure the existence of a common core of service offerings
- To coordinate pan-European and multinational proposals

The company has extended the policy of acquiring companies possessing strategically important technical knowledge to one in which individual companies within the group are tasked with retaining and disseminating technical expertise. Particular companies will have specialist knowledge of particular manufacturers or product areas, and they have responsibility for the ongoing development of their skills.

Proposal Formulation

Olivetti points out that it is highly selective over the contracts for which it will submit proposals and, by so doing, the company is able to use the process of proposal formulation to expand its skills base. Proposals will only be tendered for contracts that either utilise existing skills or that involve a logical extension of skills that the company already possesses. Formulation of the proposal provides the opportunity for detailed project and technical

planning that seeks to ensure the economic and technical feasibility of the contract. An indication of the seriousness with which Olivetti regards this process is the fact that up to 50 people, representing finance, sales & marketing and service departments within Olivetti's service operation, can be involved on a major project proposal at any one time

INPUT Comments

Olivetti is in the fortunate position of being a hardware manufacturer that can currently boast a highly successful service organisation with an impressive growth record. Furthermore, the company can, with some justification, claim to be an independent maintenance

supplier whose differential advantage is based on flexibility and credibility of service rather than on price.

The key lesson to be derived from Olivetti's example is that successful diversification away from excessive reliance on hardware maintenance can be achieved, given two key conditions. Firstly, the provider must genuinely focus on the provision of a level of service whose principal requirement is to satisfy customer needs. Secondly, the company must maintain a disciplined approach to technical diversification and to contract proposal. Olivetti is proof of what can be achieved given the whole-hearted application of these conditions. ■

Elmbrook Training Services

Education and training is accepted as being one of the areas of customer services with the potential for real growth: INPUT estimates that the Western European market for education and training services grew by approximately 16% between 1989 and 1990. However, the area has not received the attention that it deserves. INPUT is taking the opportunity to profile a small training company named Elmbrook Training Services to look at current trends within the training market.

John Howes founded Elmbrook in August 1988 after a career in both sales and customer services with Digital. Exhibit F lists the courses currently offered by the company.

Elmbrook Training Services is an example of a number of small training establishments that make up a significant proportion of the systems training market. The existence of the company, together with the range of courses it offers, provides an interesting insight into the key elements of the education and training market.

It is apparent from Exhibit F that the company is strongly oriented towards Digital, insofar as a significant number of courses relate specifically to its range of product offerings. Elmbrook's market for these products is Digital itself and its dealers and principal customers: John Howes estimates that 60% of his work derives from Digital. This arrangement illustrates a trend

on the part of manufacturers to contract a portion of the services they supply to third parties rather than relying on full-time staff dedicated to providing all such services. Such a tactic on the part of the manufacturer has obvious benefits in terms of cost savings and flexibility, but for the small company supplying the service product, there are a number of potential risks.

The heavy reliance on a single customer is evidently a significant risk, particularly in relation to the delivery of courses concerning technical issues. Generally, excessive reliance on a single source of business poses a significant and obvious risk to the small supplier. Additionally, trainers operating outside the company can encounter problems in keeping abreast of technical developments.

Commercial Courses for Customer Services

Elmbrook is adopting two courses of action to reduce its reliance on Digital. Firstly, courses have been developed to attack niche markets that extend beyond the boundaries of a single supplier. Such courses include general computing and computer sales courses but also cover training specifically targeted at the customer services business. The customer relations skills and the selling services course both utilise John Howes' background and provide the client company with the opportunity to focus on these two critical areas of the customer services business.

Secondly, Elmbrook is actively seeking to establish partnership agreements with other small-scale suppliers. By establishing a network of such companies, it will be possible to offer a portfolio of courses across a broader range of manufacturers' equip-

Exhibit F

Elmbrook's Training Offerings

- General Commercial Courses
 - Selling Services
 - Customer Relations Skills
 - Negotiating Effectively
 - Effective Presentation and Communication
 - Introduction to Computers
 - Cost Justification of Computer Systems
 - Buying Computer Solutions
- Digital-Specific Courses
 - Introduction to Digital
 - Selling with Digital
 - Digital Architectures, Products and Services
 - Solution Definition, Configuration and Pricing
 - Solution Definition, Configuration and Pricing—ULTRIX/RISC Update

ment. Such an arrangement will allow the company to retain the advantages of economy and flexibility inherent in a small operation while, at the same time, permitting the expansion of the product range covered.

Continued on next page

*Elmbrook...from page 7***Future Developments**

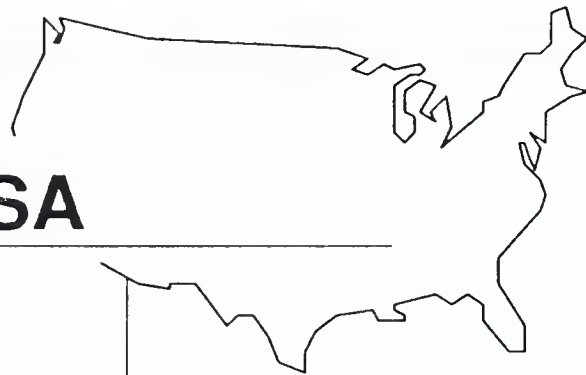
Elmbrook is confident that the trend towards increased outsourcing will continue and that it is reasonable to predict that a network of small training companies will emerge that offers experienced trainers with the flexibility to respond rapidly to the changing needs of their clients. The principal danger facing these emerging operations is the tendency to rely too heavily upon a single manufac-

turer. However, the need to diversify into new markets should generate a variety of new courses addressing needs outside the traditional product-based course.

If you would like further information about Elmbrook Training Services, please contact John Howes at:

Elmbrook Training Services,
Elmbrook House, Garth Road,
Morden Surrey, SM4 4TS,
United Kingdom Tel - 081 330
6646. ■

Questions from the USA



Q: What types of automated procedures, systems and tools are available on Amdahl's new 5995?

A: Amdahl's improved on-board diagnostics will permit the machine to by-pass non-critical problems. The processor can access several AI systems when a failure occurs. The AI system, in turn, analyses the situation and sends back a fix.

By bypassing non-critical problems, it is possible to schedule a single engineering visit to resolve a number of problems, which in many

cases, can be fixed while the machine is still running.

Amdahl has also implemented a new method of installing upgrades without disrupting the customer's operating environment (i.e., channels can be added without taking down the system).

Q: Does Fujitsu have a maintenance quality discount schedule for ATMs?

A: Fujitsu has a sliding schedule ranging from 2% on 15 to 30 units to 13% on 150 units or more. There is also a special plan available in cases where a number of ATMs are administered by a central billing address.

Q: What are Sharp's service offerings?

A: Sharp has two service contract options:

REPAIR DEPOT—the customer ships its equipment to its local depot.

The repair depot service also includes EXTRA (Extended Time Repair Agreement)—a mail-in service to the five mail repair depots.

There are three plans available:

- 1) Priority repair/Priority next-day shipping
- 2) Priority repair/Regular shipping
- 3) Normal repair/Normal shipping

SABERS (Sharp Authorised Business Equipment Repair Stations)—the customer takes the machine to its local SABERS and picks it up again. There are over 150 SABERS locations nationwide.

Field engineers are only available through the SABERS, and customers must pay for the expense of travel. Labour and parts are under either warranty or under contract.

Q. What service offerings does Computer Maintenance and Parts Company have?

A. Computer Maintenance and Parts (CMP)
310 Central Road
Fredericksburg, VA 22401

The company can provide third-party maintenance on most OEM equipment, some systems integration, and fourth-party maintenance (although only on Zenith equipment).

For third-party maintenance the list includes:

IBM—370, 360, Series 1, 3033, 4300, 3082, 3090, 9370s. All PC lines.

NAS

Amdahl—5850, 5870, 300

STC—all peripherals

Memorex—all computer equipment

DEC—mainly peripherals, although it does have the capability to service the 11/750 VAX machines.

HP—peripherals

Wang—PCs

Unisys—PCs, 8000, 9000

Burroughs—1900 PC (B26, XE/850), etc.

CMP can provide maintenance for 95% of the IBM PC clone manufacturers.

Fourth-Party Maintenance—Zenith only. The company has the capability to provide service to the component level, and it has a service depot specially for that purpose. The fourth-party maintenance service was introduced eight months ago.

Software Support—There are two to three people in-house who are software oriented. The company has agreements with most software vendors, so if there are questions that

the in-house staff cannot handle, they can address the software house for answers.

General Information

1989 revenue \$1.7 million: all of it for third-party maintenance

Number of employees: 40-45 nationwide

President is Mr. William D. Stovall

The company was established in 1979.

Q: How does Sungard market disaster recovery services to the federal government?

A: The office in Fairfax, Virginia handles the federal accounts. According to Sungard "there is not a lot of business" derived from the federal market. Primary clients are the Office of the President, some federal agencies and federal affiliates (i.e., defence contractors).

There is very little difference between the way Sungard markets its disaster recovery services to federal government compared to commercial markets. The only real difference is that Sungard offers the largest discounts to the federal government. For both the federal and commercial markets, Sungard has had to go through a long RFP process. Sungard endeavours to tailor the best solution for each client. ■

Continued on next page

Snippets

- ❖ ITS SA, the French telecommunications services company, and Aeroflot, the USSR airline, have set up a partnership in Moscow. In addition to providing systems integration services to Aeroflot, the company will also offer computer maintenance services to other western ventures being established in the Soviet Union.
- ❖ Granada has replaced IBM as the maintainer at the Galileo airline reservation data centre at Swindon in the U.K.
- ❖ Thomainfor is continuing with its acquisition strategy. The company has taken a majority stake in Spain's Cero Mantenimica Cero SA, increasing Thomainfor's pan-European coverage by giving it a presence in Spain.
- ❖ Further to our article on EMP last month, Digital has announced its Business Protection Service in the U.K. The product, which has been in operation in the U.S. for eight years, offers the use of a recovery centre where disaster-struck subscribers can resume operations. The package also includes a Recovery-all element offering an insurance plan for the repair or replacement of equipment, including that of other vendors.
- ❖ In an attempt to mitigate the impact of the increasing shortage of graduates in Europe, ICL has entered into an agreement with the Institut Superior d'Electronique in Paris. The agreement covers cooperation and resource sharing and involves the creation of a final-year option at the Institut covering the area of information networks.
- ❖ Research Machines, the leading supplier of PCs to the education market in the U.K., is currently recruiting 40 staff for its service division that expects to employ about 100 by the year's end.
- ❖ The Henly Centre of the U.K. is predicting accelerating growth in the facilities management market. In a report commissioned by Rank Xerox Facilities Management, the Centre assumes the principal contributing factors to be cost savings and the freeing of management time to concentrate on core activities, plus the effects of the well-publicised shortage of school leavers and graduates.
- ❖ CMC Ltd, the Indian computer services company, has launched an "offshore" facilities management service. The basis of the service is that the central support offices will be located in India where, CMC claims, clients will be able to save up to 50% on European costs.

U.S. Snippets

- ❖ On 30 November 1990, Digital Equipment Corporation announced major enhancements to its Integrated Security Programme, which include the following:
 - Major additions to VMS password management, to deter guessing of user or system account passwords
 - New management features in the Ethernet Enhanced-Security System, providing node authorisation, access control and encryption in a multivendor environment LAN
 - A Compartmented Mode Workstation (CMW), designed to be evaluated at the B1 and CMW level of trust. CMW is based on RISC and VAX architectures, ULTRIX operating systems and X-Windows/MOTIF.
- The availability, through Digital, of Sybase's Secure SQL Server, multilevel secure RDBMS software packages for VAX ULTRIX systems
- Digital's Distributed System Security Architecture (DSSA), a comprehensive specification for implementing information security in a distributed, multivendor environment
- Secure Solutions Integration Centre to provide security consulting and solution design

- Next Step Services for VMS Security, which consists of security courses and consulting to train a customer's information systems (IS) organisation

These new products, enhancements and services allow customers to choose the appropriate level of security for their particular needs.

Digital's new program to encourage software vendors to develop complementary security products targets system and user identity verification, shared software and data integrity, and confidentiality of sensitive information transmitted across networks.

- ❖ IBM reorganises its service functions. IBM announced significant changes to its United States service organisation on 1 November 1990. The National Service Division (NSD) no longer exists.

The major changes are as follows:

- IBM has formed a new division, the IBM System Services Division (ISSD). The key focus of ISSD will be on the sales and delivery of outsourcing business for IBM. IBM has named Mr. Dennie Welsh as president of ISSD. Mr. Welsh has been responsible for managing IBM's system integration business with the federal government. Reporting to Mr. Welsh as General Manager of System Services Operations is Mr. William L. Wilson and his staff, who were previously in the National Service Division (NSD).
- Software Support Services under Ms. Patricia K. Kearney, M&S Director of Software Service now reports to Mr. William Grabe, IBM Vice President and General Manager of Marketing for IBM in the United States. Mr.

Grabe was already responsible for the user support function within the marketing organisation. IBM may gain some efficiency by merging these two functions in the future.

- Service marketing under Mr. Thomas V. Esposito, Marketing and Services Director of Service Marketing, now reports to Mr. Grabe.
- IBM Vice President Mr. Dave McDowell, who was President of the National Service Division, is now General Manager of Marketing and Service Quality. Mr. McDowell is responsible for guiding marketing and service quality efforts in the United States, ensuring M&S has the effective information systems strategy and application architecture essential to achieving quality goals, and serving as the M&S focal point for product quality and the delivery of high-quality products.

IBM's large field service organisation no longer reports to the National Service Division. In July, IBM changed the line reporting structure so that all NSD area managers reported to a general manager of marketing and service in each geographical area. There is speculation that IBM plans to make a similar move on 1 January 1991 by appointing a general manager of marketing and service for each major city.

IBM stated that it hoped to accomplish two major objectives with the organisational changes announced on 1 November: to enhance the quality of marketing and to enhance service delivery capability. When asked if staff reductions would result from these changes, IBM said that to the contrary, that it planned to increase the manpower devoted to services.

Concept—The Latest Update!

Since our update on Concept in the November issue of Service Update, further developments have occurred in the ongoing saga of the company. A reorganisation of the major shareholders has left Altus Finance SA, the computer services company which is 49% owned by the state-owned Thomson CSF, with a 50.1% shareholding in Concept. The other major shareholder is the state-owned Credit Lyonnais bank.

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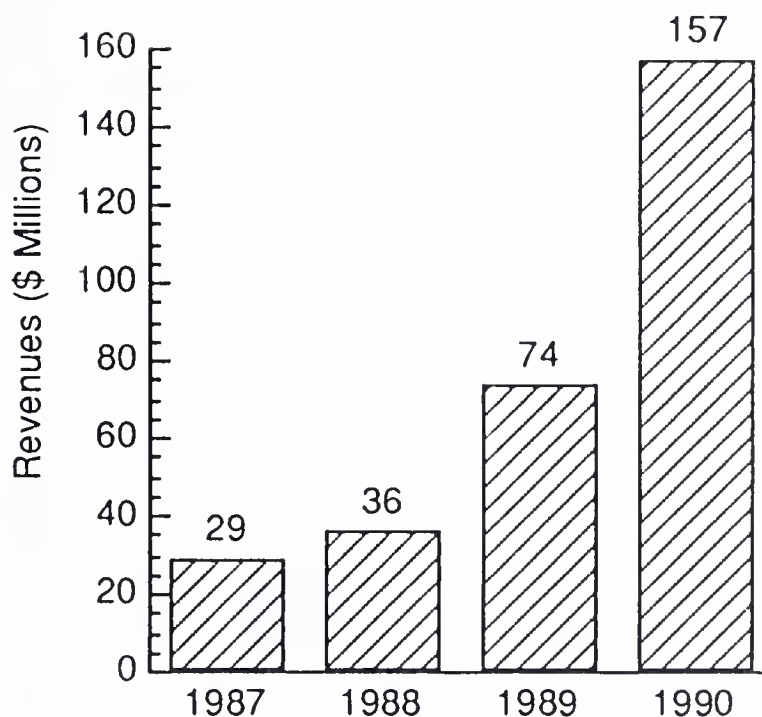
Thomainfor Revisited

In August of 1989, INPUT profiled Thomainfor, the French third party maintenance vendor, and described the strategic direction being pursued by the company. Now, some 17 months later, INPUT is revisiting the company to discover the extent to which the strategy has been maintained.

Thomainfor, whose parent company is Thomson-CSF, was originally profiled shortly after it had acquired the European arm of Control Data's TPM operation. The news of the acquisition was released in the middle of June 1989, and it was instrumental in establishing Thomainfor as an independent maintenance provider of fully European dimensions. Exhibit A indicates the effect that the Control Data operation had on the revenues of Thomainfor. In

Exhibit A

Total Thomainfor Revenues 1987-1990



Note: Currency conversions and rounding by INPUT.

Continued on next page

Thomainfor...from page 1

terms of geographic coverage, Thomainfor had a very strong presence in France, and coverage in Germany, Austria, Switzerland and the U.K.

The Strategy

The strategy, as defined in 1989, primarily consisted of five components:

- Growth through acquisition. Thomainfor achieved a pan-European status largely through the acquisition of the Control Data operation, and it was made clear to INPUT that acquisition was considered to be the major engine for growth.
- Thomainfor would concentrate on establishing expertise in the maintenance of the equipment of the principal manufacturers such as IBM, Digital and Bull. However, it was intended to put special emphasis on the minicomputer sector of the market and to develop a high level of expertise in UNIX products.
- The target customer groups were

defined as large or medium-sized organisations. The company clearly stated that it was not particularly keen to sign up small customers.

- In addition to the European countries in which it already had a presence, Thomainfor indicated that its longer-term goal was to establish operations in each country within the European community, with particular emphasis upon Spain, the Netherlands, Belgium and Italy in the short to medium term.
- Finally, the company stated that it was looking to achieve what it described as a "critical size"—which was defined as being a turnover of between \$6.5 million and \$8 million—in every country market that it entered.

The strategy was both comprehensive and ambitious. How far has the company progressed and to what extent have its strategic goals proved to be achievable?

The Implementation

Exhibit B illustrates the progression of Thomainfor's revenue forecasts for 1990 made during the course of 1989 and 1990, compared with the figures actually achieved, and it provides valuable insight into the company's continuing growth pattern during the year.

Growth through Acquisition

The actual 1990 revenue figure represents an increase of 52% over the initial forecast made in August of 1989. Thomainfor's revenues have increased by

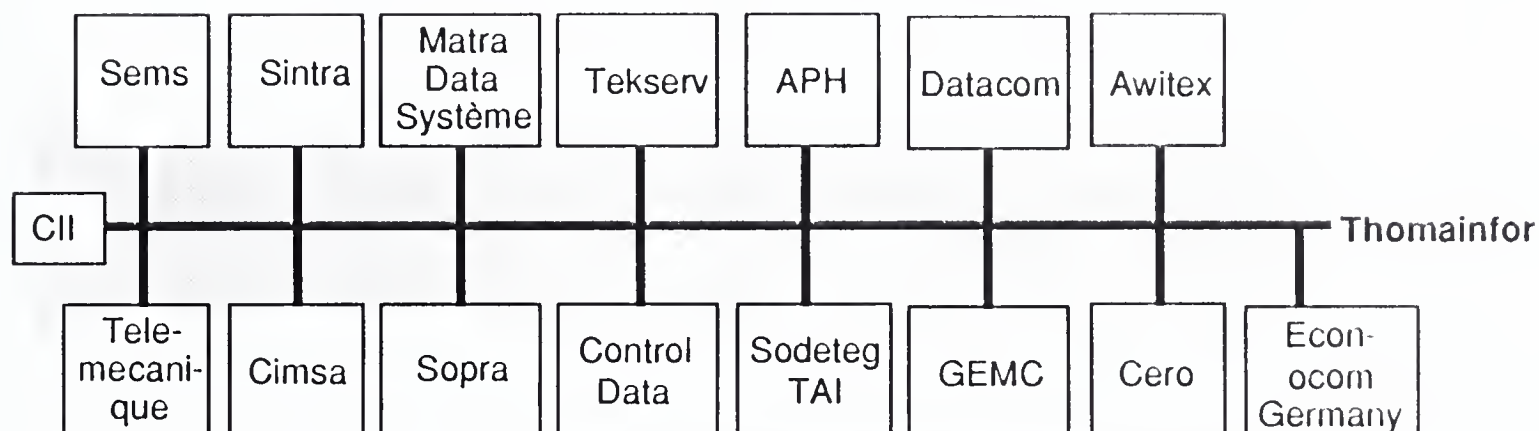
Exhibit B

Thomainfor Revenues for 1990—Forecast and Actual

Country	Date of Estimate			Actual 1990
	Aug. 1989	Jan. 1990	Dec. 1990	
France	90.0	123.7	123.7	124.1
West Germany	5.5	7.4	12.0	11.0
Switzerland	0.7	0.9	0.9	1.0
Austria	3.0	5.0	5.0	5.0
United Kingdom	3.8	4.8	4.8	4.2
Belgium	-	8.7	8.7	7.9
Spain	-	1.9	5.0	3.8
Total	103.0	152.4	160.1	157.0

Exhibit C

Thomainfor—The Constituent Companies



approximately 112% over its 1989 earnings, which can only be described as an extremely rapid rate of growth.

The number of forecasts and the scale of growth achieved can be explained by the number of acquisitions made by the company during the course of the year. Examples include Awitex and Econocom in Germany, which more than doubled the anticipated revenues of the German operation and increased the number of branch offices from 7

to 15. The French operation was strengthened with the acquisition of Sopra and Matra Datasystème, and Thomainfor gained a presence in Belgium through the acquisition of Tekserv and GEMC. The acquisition of CERO has given the company a foothold in Spain.

Exhibit C shows the acquired companies that make up Thomainfor and the full extent of the aggressive policy of growth pursued by the company.

It is clear from the pattern of purchase that the cornerstone of Thomainfor's strategic intent, to grow through acquisition, has been applied consistently and aggressively during the course of 1990.

A Pan-European Company

In addition to illustrating the revenue growth of the company, Exhibit B also shows the expansion of Thomainfor's

Continued on next page

Exhibit D

Geographic Expansion

1989 Position		Medium-Term Target		Long-Term Target
France	Achieved	Belgium		Luxembourg
Germany		Spain		Portugal
U.K.		Netherlands		Ireland
Austria		Italy		Denmark
Switzerland				Greece

Thomainfor...from page 3

geographical coverage. Exhibit D illustrates the progress made in 1990 towards the stated goal of pan-European coverage.

It should be noted that the acquisition of GEMC in Belgium has given Thomainfor a presence in Luxembourg.

The growth of the company during 1990 illustrates the very considerable progress made in achieving its medium-term targets and provides a valuable illustration of the extent to which Thomainfor has sought to implement its stated strategy. However, in addition to not having covered all targeted countries, the company is some

only France, Germany and Belgium have reached this goal.

Product Expertise

Exhibit E lists the major product areas in which Thomainfor currently has expertise.

The company has remained true to the product strategy as defined in 1989. Establishing expertise in workstations was made possible by the acquisition of the French company Matra Datasystème, which had expertise on the Sun workstation product range. Although these products appear to fall outside the range of activities included in the original strategy, the possession of such expertise considerably furthers the acquisition of UNIX skills.

maintenance vendor in Europe, behind Granada, and the largest single supplier in France. In common with other major vendors in the market, the company has achieved its position as a result of a period of intense acquisition activity. In reviewing the performance of the company over the past 17 months, it should be noted that the implementation of the strategy has remained very true to the original plan and that considerable progress has been made towards achieving the major goals the company set for itself. Growth has been spectacular, and the company is now firmly established as one of the principal players in the market.

Two questions remain. Firstly, will the company continue to seek aggressive growth rates, supported by acquisition, in order to achieve its remaining goals? The company has yet to establish a presence in either the Netherlands or Italy and is some way short of achieving a "critical size" within the majority of its European operations. Secondly, will the constituent elements of the company be able to offer quality service and responsiveness to its customers after a period of dramatic growth and consequent change within the organisation?

In answer to the second question, it is too early to offer a judgment. Obviously, the absorption of a significant number of companies into a large and growing corporation involves change and potential dislocation, which leads to potential decline in standards of

Exhibit E

Thomainfor Product Expertise

Manufacturers	Equipment Categories	Software
IBM	CPUs	UNIX
Digital	Peripherals	VMS
Bull	Workstations	MVS
Sun	Microcomputers/PCs	GEOs 6/7
ATT	Networks	MS/DOS
All Major Minicomputer Manufacturers		PROLOGUE

way short of achieving a "critical size" of earnings of at least \$6.5 million in each of the country organisations. To date

The Future

Thomainfor is currently the second-largest independent

service. Although there is little doubt that the company's dynamism demonstrates a strong will to succeed, the strength of these factors should not be underestimated. It is too early to offer a judgment on eventual success at this stage in the company's development. However, it will be instructive to watch the continuing evolution of the group.

With regard to the first question, INPUT anticipates that despite the strategic targets still to be met, 1991 will be a significantly quieter year for Thomainfor than 1990. Two factors influence this conclusion. Firstly, it is suggested that Thomainfor appreciate the need for a period of absorption to allow the newly acquired parts of the

organisation to be effectively assimilated into the whole. Secondly, the current world outlook is far from conducive to a period of continuing aggressive acquisition. Although there is little reason to doubt Thomainfor will continue to pursue its strategic goals, the pace of growth is likely to slow appreciably. ■

Snippets

- ❖ **Granada Computer Services** has won a contract to service Amdahl equipment. Valued at over £250,000 per annum, the contract has been awarded by Granada Information Services. The computer services division already maintains IBM and Memorex-Telex equipment but not, until now, the Amdahl mainframes.

Evidence is growing that U.K. local government is increasingly looking at facilities management contracts. The local government IT managers group estimates that up to 20% of councils will be exploring the use of facilities management. This data is supported by the fact that both Westminster, and Hammersmith and Fulham Councils are actively considering a move to facilities management.

- ❖ **Data General** has announced that it will be offering the capability of serving Sun Microsystems equipment. It is reported that DG has entered into an agreement with Apex Computer Inc. in the U.S., who will provide training and inventory support.

- ❖ **Digital** has retained its largest third party maintenance contract despite competition from IBM. The contract with Westland, the U.K. helicopter manufacturer, is worth roughly £2.5 million and covers all Westland computer equipment, with the exception of its IBM mainframes.

- ❖ **SD-Scicon**, the U.K. systems house, is reported as having reduced its PC maintenance support prices. The company offers a premium service providing on-site response within four hours and handles software support for some proprietary programs and a data recovery service within the overall maintenance contract.

- ❖ **LIFFE**, the London International Futures Exchange, has awarded its computer maintenance contract to Switch, a small London-based independent maintenance company with 15 employees and a turnover of approaching £1 million. A key factor influencing the awarding of the contract is the up-time guarantee offered by Switch. ■

News from the USA



Bell Atlantic Announces MAXwatch SM

On 5 December 1990, Bell Atlantic Business Systems Services announced MAXwatch SM, a systems integrity monitor for DEC VAX/VMS hardware.

MAXwatch monitors all network or clusterwide VAX systems and DEC or DEC-compatible peripherals. The

system features call home capabilities, customer monitoring and notification thresholds, and can perform automated remedial actions in response to errors.

When certain critical errors occur, MAXcall SM automatically places a call to Business Systems Services' Technical Support Centre. The service call is immediately logged and processed for remote diagnosis and support. A field engineer can also be dispatched with the parts needed for repair.

MAXwatch software's reporting functions allow error history reports to be generated for any device over a specified period of time. Preventive maintenance can be scheduled as a result of hardware performance analysis.

MAXwatch is available at no charge as part of standard hardware service for VAX maintenance customers running version VMS 4.0 or later.

Novadyne Announces Remote Monitoring

Novadyne Computer Systems, Inc. recently announced Remote Monitoring, a proactive diagnostic system that regularly dials into a Tandem customer's computer system and identifies potential problems.

Key features include automatic dialing to the system, an analysis of error information, password protected/encrypted database security, and comparison of current data to history files to identify abnormalities.

Remote Monitoring improves systems productivity by identifying possible failures and scheduling repair at the client's convenience, before serious system failures occur.

Integrated Securities Program Announced by DEC

Digital Equipment announced an Integrated Security Program, formalizing Digital's commitment to information security and integrated security architecture for distributed, multivendor systems.

The Integrated Security Program is a series of security enhancements packaged for single systems, LANs, and management services to assist

organisations in implementing effective security controls.

The program addresses system and user identity verification, integrity of shared software and data, and confidentiality of sensitive information stored or transmitted across networks.

With these newly integrated security products, capabilities, and services, customers can choose the levels of security appropriate for their applications and organisations.

Help Desk System Software Available for BusinessWise

With the growth of internal help desks to field user problems, many companies are adding help desk software to their list of required software.

One of the offerings currently available to assist the internal help desk in the management of enquiries is SupportWise for BusinessWise. SupportWise offers telephone support system technology to quickly identify callers, capture call information, dispatch action requests and letters, maintain call history and client information, and allow access to prior calls, technical notes, and customer configuration information. SupportWise has been designed for the high-volume shop, supporting complex situations such as network installation and support. The Tech Notes search facility assists in the retrieval of technical bulletins and product notes. ■

Questions from the USA



Question:

What does Affiliated Computer Systems (ACS) offer for ATM maintenance service?

Answer:

ACS Field Electronics provides service on NCR, IBM, Diebold and Docutel ATMs. Customers can choose a combination of First Line, Second Line, and Cash Replenishment services to meet their requirements.

First Line maintenance includes repair of card or form jams, replacement of forms, maintenance of ATM appearance and surrounding area, unlimited number of calls, clearance of dispenser jams, customer selection of hours of service coverage, and no mileage surcharge for ATMs outside metropolitan areas.

Second Line maintenance includes four preventive maintenance inspections a year, customer selection of hours of service coverage, elimination of extra billings, rapid response to service calls resulting in improved ATM availability and increased transaction revenue, money-back guarantee in timely responses, network/communications support, monthly reporting on each

ATM, unlimited number of service calls, no mileage surcharge for ATMs outside metropolitan areas, ATM camera maintenance, and two preventive maintenance camera inspection and test shots a year.

Cash Replenishment Services include ATM cash replenishment and balancing, return of captured cards, emergency cash replenishment, and deposit return where applicable. ■

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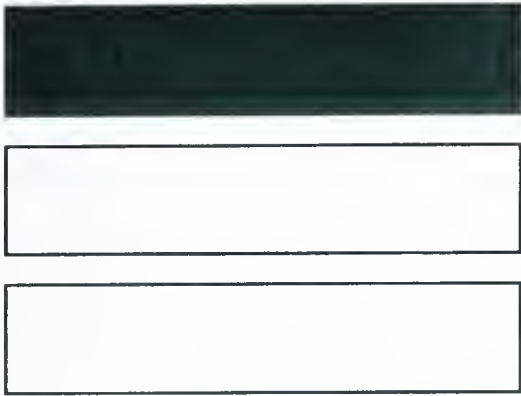
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Safetynet—A Disaster Recovery Specialist

Disaster recovery is a subject that has attracted considerable interest in the recent past among both customer services and professional services vendors. In order to understand the current market position, INPUT is taking this opportunity to profile Safetynet, a disaster recovery specialist that has gained an established position within its target niche.

Safetynet Limited is a U.K. company that commenced trading in April 1986. It has, up to this point, concentrated exclusively on the IBM midrange customer base, although consideration is being given to expanding the scope of products that are manufacturer independent. Exhibit A shows the range of hardware currently supported, and the products

that the company is considering for the future.

The degree to which the company can be expected to continue to attack its market niche is clearly indicated by the advertised mission statement:

"To be the European Leader in the IBM Midrange Disaster Recovery Market."

Geographic Expansion and Coverage

The company currently has over 200 customers in the United Kingdom, with contracts that will generate over £8.9 million in revenues during the first half of the 1990s. Having established a solid position within the U.K. market-place, Safetynet began actively to pursue the target inherent in its mission statement

Exhibit A

Hardware Ranges Covered

- Current
 - IBM
 - System/38
 - AS/400
- Potential
 - IBM
 - RS6000

with the formation of Safetynet International Limited during the latter half of 1988. Exhibit B shows the extent to which the company has succeeded in expanding its geographic

Continued on next page

Safetynet...from page 1

coverage over the past two years. It also illustrates quite clearly that the Continental European market has been targeted first in the company's international expansion plans. The company also expects that a

CINSA in Spain, which ranks as IBM's largest Spanish agent. The use of franchising provides two key advantages for Safetynet. Firstly, it allows the company to select franchisees that possess a high level of technical expertise in the IBM midrange market-place and,

Exhibit B

Geographic Coverage

Year Operation	Country	Company Name	Relationship with Parent	Location/s
1986	U.K.	Safetynet Ltd		Finley, Surrey Chiswick, W. London Manchester
1990	France	Safetynet France SA	Wholly owned	Paris
1989	Spain	CINSA	Agent	Madrid
1990	Italy	GMI	Agent	Milan
1990	Denmark	Cominvest A/S	Agent	Aalborg

Proposed: Norway, Sweden, Germany, Holland, Far East

wholly owned German operation will be established in Frankfurt during the course of 1991 together with a presence in the Dutch market.

The methods adopted to gain footholds in foreign markets include the formation of wholly owned subsidiaries such as Safetynet France SA and the use of franchising agreements with such companies as Cominvest in Denmark, GMI in Italy and

secondly, it can concentrate exclusively on potential partners that have an existing coverage of the target market. Both factors can be achieved without the very high capital outflows and problems of cultural integration inherent in an aggressive acquisition strategy. Although the company is willing to contemplate partnership agreements, it does not intend to use acquisition to achieve geographic expansion.

Financial Performance

Exhibit C illustrates the revenue growth of Safetynet, complemented by the pre-tax profit figures shown in Exhibit D. The company's very healthy revenue growth figures can partially be explained by the fact that it is competing in a market that is in a high growth phase of its lifecycle: INPUT estimates that the European disaster recovery market will grow by 25% between 1990 and 1995. However, the inherent financial strength of Safetynet is indicated by the pre-tax profit margin. Excluding the first year of operations, the profit margin has never fallen below 22%. These figures have been returned despite a significant investment programme in new hardware of over £1 million at the end of 1990.

The company's impressive financial record indicates the returns that can be made within the disaster recovery market by adopting and executing a well considered strategy.

The Services

Disaster Recovery

The disaster recovery service obviously lies at the core of Safetynet's activities. The company stresses that it is not simply in the business of supplying replacement equipment in the event of a disaster. A full range of services are offered, including active disaster prevention programmes and disaster contingency planning and implementation.

Exhibit C

Turnover and Revenue Growth 1987-1991

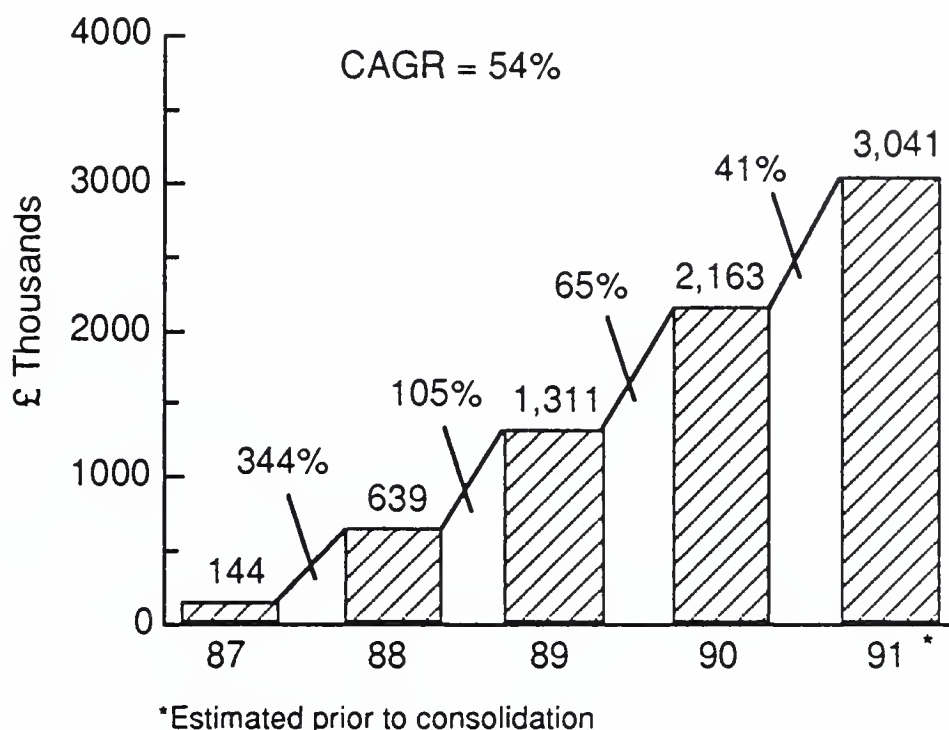
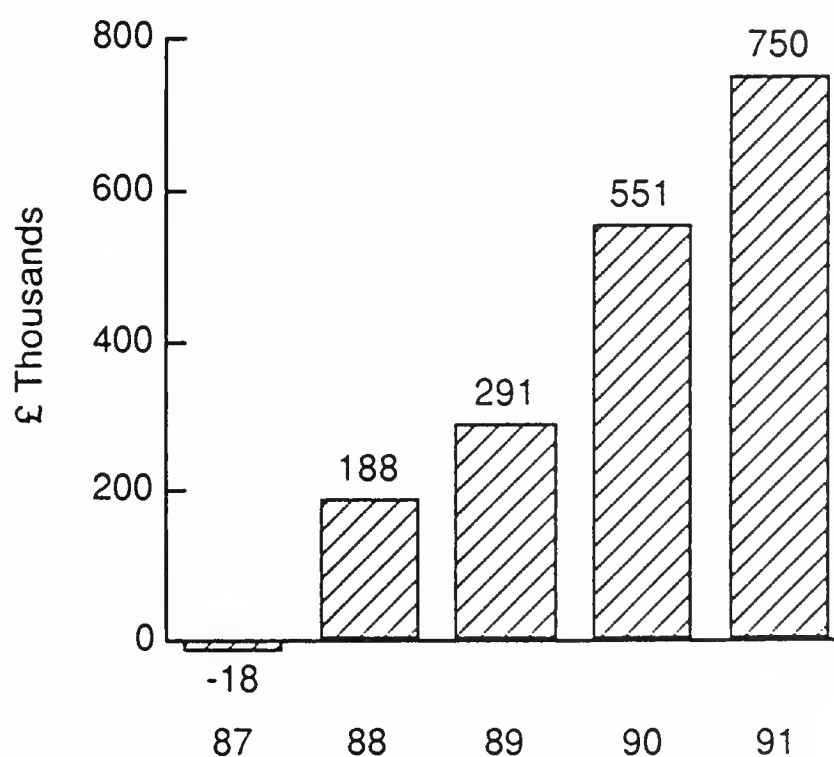


Exhibit D

Pre-Tax Profits 1987-1991



Continued on next page

Safetynet...from page 3

The constituent elements of the disaster recovery service are listed in Exhibit E.

- *Prevent.* This element of the service is designed to achieve two key objectives:
 - To ensure that a disaster recovery plan is in place. Safetynet's own research indicates that up to 60% of users now have some form of disaster recovery plan, which is largely influenced by legal requirements within the financial services industry and by the interest of auditors in the subject.

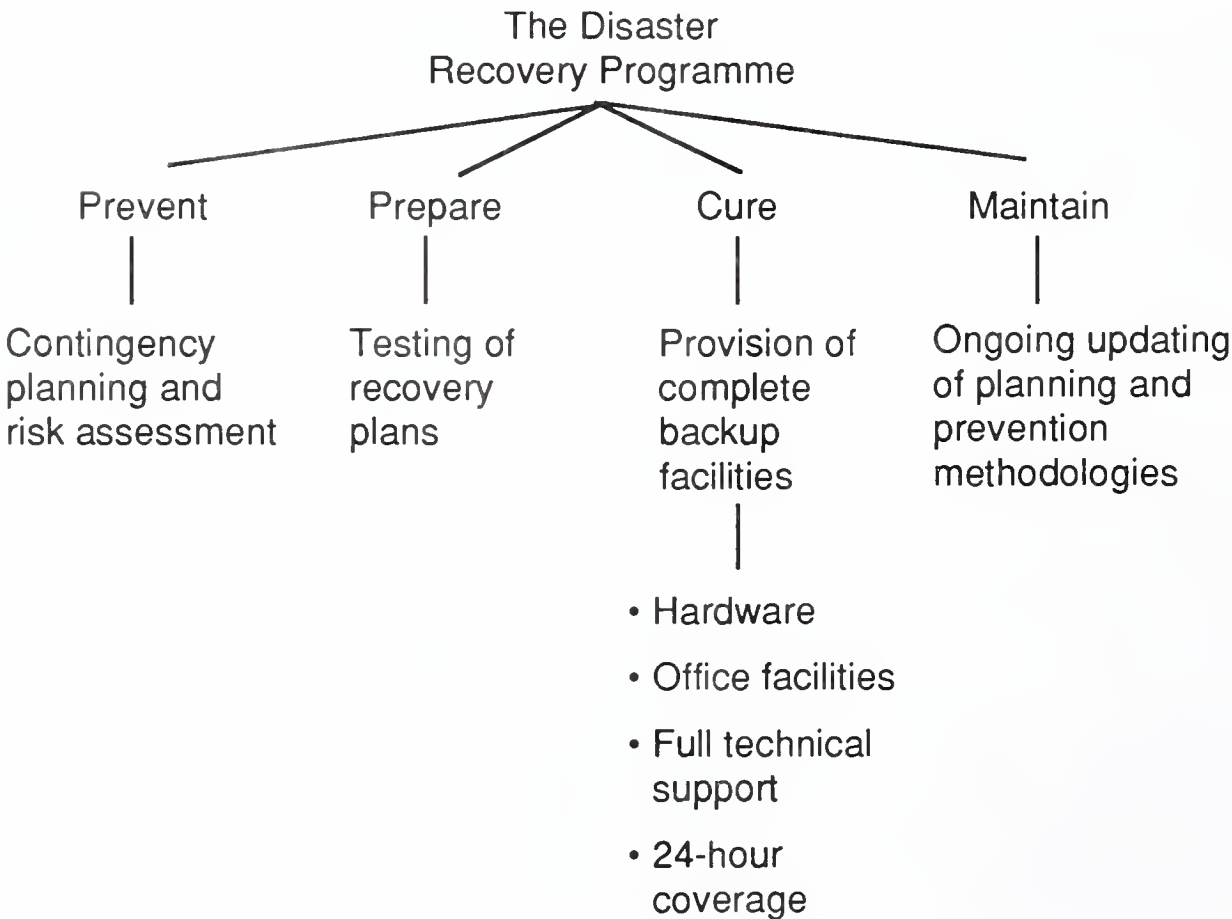
The existence of a properly considered plan is a pivotal factor within a disaster recovery programme, and Safetynet therefore puts considerable emphasis on assisting clients in the development of such plans.

- Of equal importance to the existence of a disaster recovery plan is the attention that Safetynet pays to the area of disaster prevention. Risk assessment and preventative planning are considered by the company to be intrinsic elements of a complete disaster recovery service.

- *Prepare.* If a disaster recovery programme is to meet the requirements of the client, the plan should be tested on a regular basis to ensure that it will work in practise. The inability to activate the plan in the event of a disaster could be fatal to a business. However, Safetynet's research indicates that up to 43% of users who have a disaster recovery plan in place have never tested it. Testing is therefore regarded as a key element of the Safetynet service.
- *Cure.* The service provided to clients in the event of a disaster is twofold:

Exhibit E

The Complete Disaster Recovery Package



- A systems platform is made available that can be accessed either through office suites in Safetynet's Recovery Centres or through the use of dial-up telecommunications links from the Recovery Centre to the client's own premises. The company has an average of between 20 and 30 contracts per system, with a ceiling of 50, and it estimates that the probability of failing to have a system available to meet contractual obligations is approximately 1 in 2 million.
- Safetynet offers technical expertise both in an overall support capacity and, more specifically, to assist in the restoration of full systems availability, including the rebuilding of databases. The company estimates that, owing to the infrequency with which clients are called upon to perform complete system restores, the operation takes an average of 20 to 30 hours for a midrange system. Safetynet, however, performs such operations very regularly and maintains an average of approximately six hours.
- *Maintain.* Safetynet has a programme of reviewing both the contingency and preventative plans of its clients, to facilitate the on-going application of technical developments to the service supplied. This element of the service package clearly illustrates the importance that Safetynet attaches to

maintaining strong client relationships.

Telenet Security

Telenet is complementary to the core product and supports the disaster prevention services offered by Safetynet. In response to research findings indicating that up to 82% of users use unattended systems, the company has introduced a product that detects power spikes, temperature fluctuations, and the presence of water and smoke. Telenet alerts a 24-hour monitoring service to allow appropriate action to be taken and will also, in the case of the AS/400, activate the automatic power down procedure. The use of such a product limits the scale of a potential disaster affecting unattended or remote locations.

Consultancy Services

Safetynet's consultancy services are principally designed to reduce companies' exposure to risks potentially able to affect severely the operation of computer systems. In addition to offering assistance in the prevention of the more dramatic disasters traditionally associated with disaster recovery, such as fire and flood, the service also encompasses such elements as computer fraud and crime prevention and consideration of the impact of hardware and software problems.

Strategic Opportunities

Safetynet has placed itself in a position where it is able to

pursue a number of strategic opportunities. The provision of a premium disaster recovery service has necessitated the development of technical excellence in the areas of systems operations and support. The need to maintain systems within the company's Recovery Centres at current revision levels also implies the ability to assimilate rapidly new technical developments and issues.

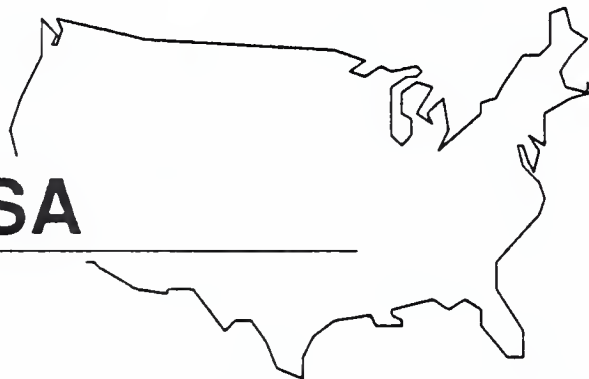
The breadth and depth of technical skills developed by Safetynet on the IBM midrange products provides a strong base from which to attack many of the markets within both the customer services and professional services arenas. The company possesses the knowledge and expertise to provide systems software support and training and is extremely well placed to compete effectively in the area of environmental services consultancy. A further logical progression would be to move into the systems operations and facilities management market, which complements both the company's operational expertise and the disaster prevention service currently offered.

It is clear that Safetynet has kept its strategic options open. It will be a very interesting company to watch in order to assess the degree to which an organisation possessing both strategic vision and highly developed technical expertise is able to expand upon its current level of success. ■

Snippets

- ❖ The London Financial Times has reported that IBM is to market environmental consultancy in the U.K. Services offered will include assistance with policy formulation, and auditing and measurement services.
- ❖ Further to our article on Thomainfor in last month's *Service Update*, the company has announced a partnership agreement with Norsk Data. The two companies are merging their European maintenance operations, with Thomainfor taking a majority stake on the continent and a minority holding in the U.K. The combined European annual service revenues of the two companies will be approximately \$300 million.
- ❖ SafetyNet has taken on 14 of the 15 disaster recovery contracts held by the Phoenix Disaster Recovery business of the U.K.'s JBA Computers Ltd, although Phoenix will continue to provide consultancy services.
- ❖ Granada Computer Services has announced its intention to concentrate on larger contracts. As part of this development, it plans to terminate 1,200 smaller contracts and to transfer others to the Microcare and Granada Microsystems subsidiaries of the company.
- ❖ It appears that Strategem has been successful in its bid to acquire Touchstone, the U.K. computer services company. The bid was complicated by the existence of an alternative offer from Getronics, but Strategem now claims to have control of 54% of Touchstone's ordinary shares.

News from the USA



U.S. Snippets

GE Computer Services offers repair and maintenance services on satellite earth station and terminal equipment. Four different levels of service are offered: On-site Services, which include on-site installation and maintenance service for satellite earth stations, communication equipment, terminals and printers; Advanced Exchange Service, where GE will ship overnight a replacement unit in

advance of receiving the failed unit; Unit Exchange Service, where a replacement unit is shipped within eight hours after receiving the failed unit; and Standard Depot Repair Service, where the failed units are repaired, refurbished, and returned within five days of receipt.

Apple Computer Corporation has recently initiated a toll-free customer assistance line called

the Customer Assistance Centre. The line, an 800 number, is not designed to be a technical hotline, but rather a backup for sales and support problems that have not been received by Apple resellers and dealers.

Wang Laboratories has consolidated its service offerings under one comprehensive programme called Life Cycle Services. None of these services is new; Wang's objective is to "have everybody aware that we offer the full range of services". Services can be purchased separately or as a customised package, and include maximum value analysis, feasibility studies, sociotechnical services, planning and analysis services, cable plant services, design services, implantations services, hardware and software services, and educational services.

Hewlett-Packard has enhanced its Dealer Premier Support program, adding support assistance, training, warranty, and subcontracting. Previously, there were only three ways a dealer could offer support services on HP equipment: Sell HP service contracts directly, service the equipment themselves, or subcontract with HP support services. The latter allows for weekly visits from HP representatives for the repair of warranted products.

Microsoft Corporation has announced Microsoft OnCall for Microsoft Basic, a 900 number that offers support, extended service hours, and minimal hold time. Also, newly available is a support line called Microsoft Quick-Basic, for clients new to the systems needing entry-level assistance.

Granada Computer Services Group has reorganised, removing Conor Kehoe from the position of chairman. The eight country divisions have been consolidated into two: Europe, headed by Peter Edwards and United States, headed by Art Baar. The two directors report to the new chairman, Derek Lewis.

As of 4 February 1991, Phoenix Technologies still has not finalised the purchase of TRW Customer Services. It was indicated that there are final details to be ironed out as a result of the merger. Phoenix Technologies fully intends to carry through the deal, although no indication was given as to when the deal will be finalised.

U.S. User Satisfaction

The following charts refer to comparative information from the U.S. user requirements studies completed in 1990. The traditional areas of system availability and response time are important criteria for the user evaluation of their service vendor.

For full information regarding the user sample and other information on the vendor's service, refer to the reports:

- *U.S. Large System User Requirements.*
- *U.S. Midrange System User Requirements.*
- *PC /Workstation System Requirements.* ■

Exhibit F

U.S. Midrange Systems User Satisfaction System Availability

	Percent Mean Required	Percent Mean Received	Difference	Percent Satisfied
Concurrent	94.1	97.2	-3.1	70
Data General	96.7	97.4	-0.7	61
Digital	97.2	96.6	0.6	65
Hewlett-Packard	98.4	97.8	0.6	77
IBM	98.1	97.8	0.3	81
All Midrange Systems	96.8	97.3	-0.5	69

Overall Sample: 109 users

About INPUT

Exhibit G

U.S. PC/Workstation User Satisfaction System Availability

	Percent Mean Required	Percent Mean Received	Difference	Percent Satisfied
Apollo	96.1	96.1	0	56
IBM	96.2	96.5	-0.3	50
Sun	96.5	94.3	2.2	33
All Other Systems	95.7	94.3	1.4	58
All PC/Workstation Systems	96.1	95.2	0.9	48

Overall Sample: 53 users

Exhibit H

U.S. PC/Workstation User Satisfaction System Availability INPUT OFFICES

	Percent Mean Required	Percent Mean Received	Difference	Percent Satisfied
Amdahl	98.8	99.1	-0.3	79
Bull HN	97.9	98.5	-0.6	79
CDC	97.6	96.6	1.0	55
IBM	98.7	98.2	0.5	71
NCR	98.0	95.8	2.2	48
All Large Systems	98.3	97.7	0.6	66

Overall Sample: 98 users

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March 1991

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- 6DEC Announces Subsidiary in Eastern Europe
- 6Q&A
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Sun Microsystems Life After Hardware Maintenance?

The recent and dramatic emergence of Sun Microsystems as a major force within the European computer industry is well known. What is less well known is the degree to which the company has been able to develop a customer service product that addresses many of the challenges currently facing the service provider. A review of the company's service operation provides an opportunity to assess an approach that has taken advantage of the opportunities within the market to develop a successful service business.

Sun's service product differs in many important respects from that offered by other companies within the industry that have been established for a longer period of time. The purpose of this article is to highlight these differences and to provide an insight into the strategic approach adopted by Sun.

The Customer's Needs

The systems product marketed by the company provides a good example of the extent to which the concentration of service effort is evolving from hardware maintenance to software support. Although the equipment is technologically complex and innovative, it is highly modular in construction. Additionally, the use of workstations and servers implies that, with the exception of the server itself, the system is comparatively resilient to component failure. The company estimates that, although customers regard systems uptime as an issue, it is not of such critical importance as it is for traditional mini-computer users.

The combination of these factors implies that the hardware maintenance operation has become a largely routine activity.

However, the systems software platform is technically complex

and requires highly developed skills on the part of the support staff. The issue is not the use of UNIX, which the company regards as presenting a similar challenge to that posed by a typical minicomputer operating system. The principal problem is caused by the standard use of networking technology across the systems range, which requires the ability to provide software and networking support and consultancy to ensure that optimum systems performance is maintained.

The major challenge facing Sun was to design a service product that met the relative needs of the customer while taking into account the fact that the design of the hardware was not going to provide the company with the opportunity to earn significant revenues through the hardware maintenance activity. It should be

Continued on next page

Sun ... from page 1

noted that the short history of the company enabled it to develop a service product to meet current market requirements rather than having to adjust a well-established traditional customer services structure.

The Business

Exhibit A lists the revenue earning channels of the company's customer services organisation. Although not dissimilar in structure from that adopted by many companies within the industry, the relative emphasis placed upon the constituent products is substantially different. The major focus is on the professional services arm of the business, which is considered to be the product providing the greatest future opportunity.

Professional Services. Perhaps the most significant point to emerge from the offerings of the professional services channel is the stress put on UNIX and network-consultancy as a customer

services activity. It is commonly accepted that consultancy is one of the main products of the environmental services channel. It is somewhat less common to find a company that regards consultancy as a key factor within a crucial area of the business. The emphasis of the professional services activity is on the company's software products and further illustrates the fact that software support is at the heart of Sun's services offering.

Education. In addition to providing the range of services that would commonly be expected from an equipment vendor's education department, this channel provides a good example of the use of a key element of the company's customer services strategy—namely, the importance placed on outsourcing. Two of the stated responsibilities of the education department are to sell courseware and to recruit external authorised trainers. The development of multimedia training tools provides a considerable opportunity to channel the training

expertise of the company through external partners.

The Installed Base Group. The purpose of this group is to supply technical expertise to assist both the direct and the channel support sales forces in the ongoing support of existing customers. In addition to ensuring that adequate logistical support is provided to third-party sales channels, advice is also provided to ensure that customers are provided with technically viable equipment upgrades. Research findings from INPUT suggest that the failure on the part of equipment vendors to adequately support older equipment is a significant source of dissatisfaction among users. Providing a technically competent support team from within the customer services organisation is one way of ensuring that the needs of existing customers are satisfied on an ongoing basis.

Support Services. The means by which hardware and software support is provided is illustrated in Exhibit B. The use of a tele-

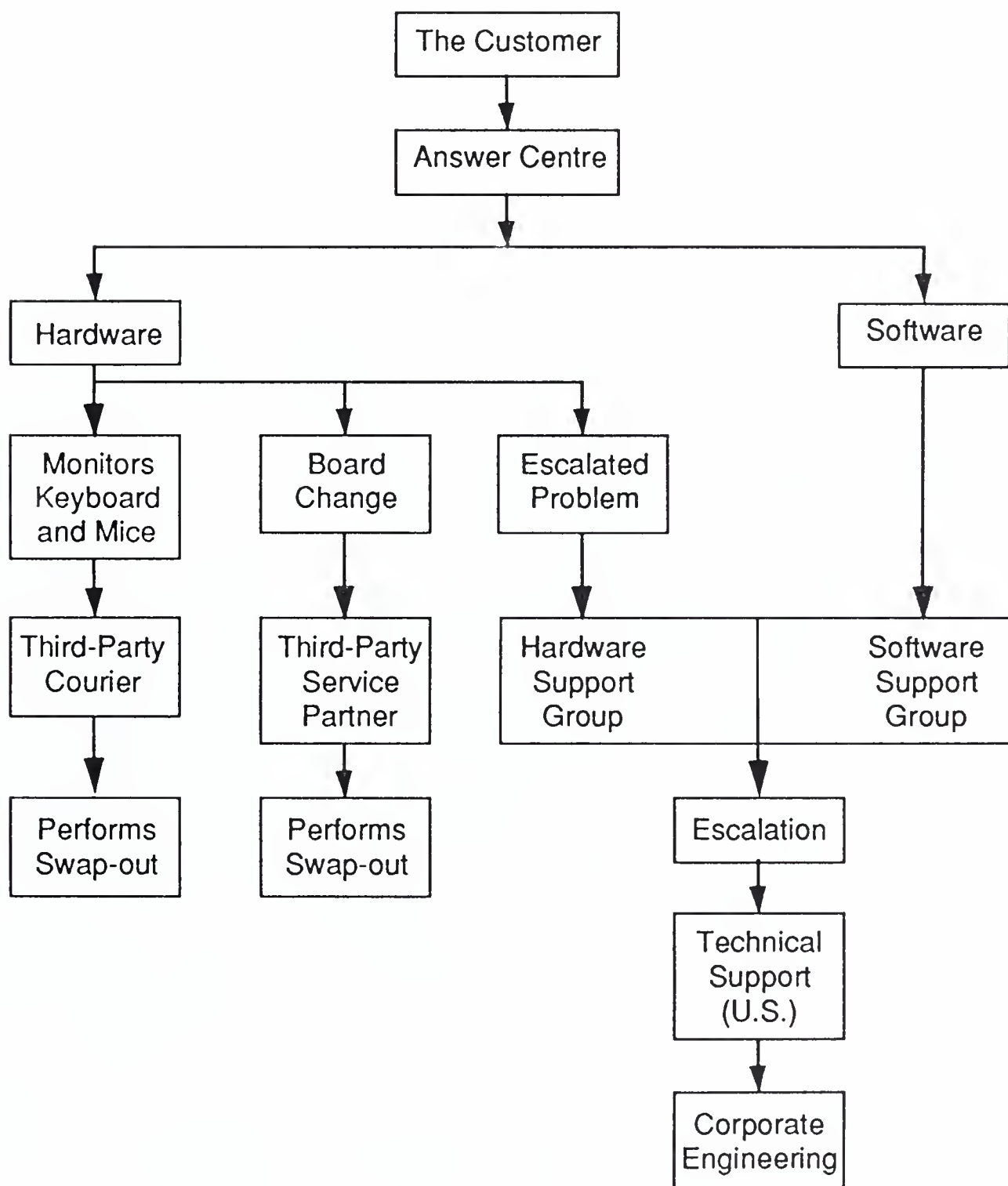
Exhibit A

The Service Product

<u>Support Services</u>	<u>Professional Services</u>	<u>Education</u>	<u>Installed Base Group</u>
<ul style="list-style-type: none"> • Hardware Support • Software Support <ul style="list-style-type: none"> - UNIX support - Network support - Systems administration - Systems tuning 	<ul style="list-style-type: none"> • Networking <ul style="list-style-type: none"> - Design - Installation - Management • Software <ul style="list-style-type: none"> - Consultancy - Device drivers - Gateways - General purpose 	<ul style="list-style-type: none"> • UNIX/Networking <ul style="list-style-type: none"> - User - Systems administration • Programming • Selling Courseware • Authorised Trainers <ul style="list-style-type: none"> - Outsourcing • Multimedia 	<ul style="list-style-type: none"> • Direct Sales <ul style="list-style-type: none"> - Upgrades - Spares • Channel Support <ul style="list-style-type: none"> - Spares

Exhibit B

Service Delivery Method



phone helpline as the primary means of providing software support is a tactic adopted by the majority of equipment vendors. However, the additional three levels of hardware service illus-

trate the particular approach that Sun is adopting for the provision of service.

The hardware support group is the one area of hardware service exclusively provided by Sun

employees. It is intended to concentrate in-house expertise within a specialist support group working closely with the parallel software support group to pro-

Continued on next page

INPUT

Sun ... from page 3

vide expert cover for escalated problems.

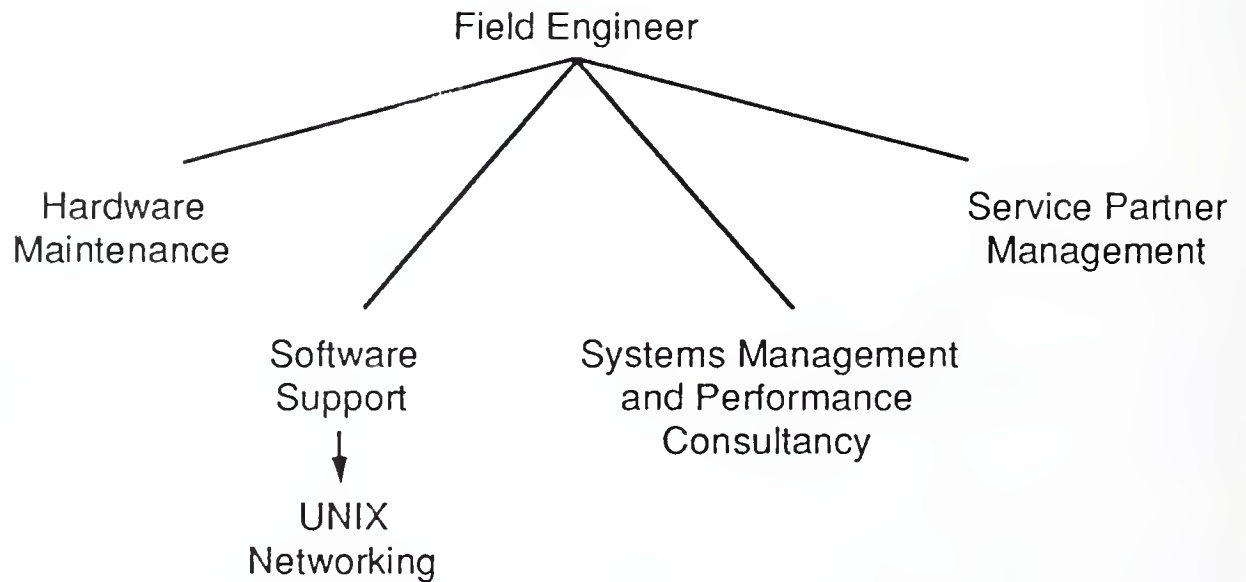
The company has identified the very different areas of expertise required to support the two levels of hardware field support. In the case of user interface units (keyboards, monitors and mice), faulty devices are simply replaced. The key criterion by which the quality of this aspect of the operation is judged is the speed of delivery.

Although the representative of the service provider will actually fit the new unit, the expertise required is principally in distribution. Sun will therefore employ third-party courier companies that possess more highly developed distribution skills than Sun itself can offer.

The use of service partners to replace parts at the component level is a logical extension of the same approach. In this instance, the principal factor governing the quality of service is the speed and efficiency with which the repair is effected. Although speed of transportation is obviously important, the critical factor is the ability to maintain a quality of service that meets the needs of the customer. This level of service therefore demands a degree of engineering ability; Sun uses the term "Service Partner" to describe independent maintenance companies that can consistently meet the technical demands placed upon them. Sun will increasingly use such companies in the future.

Exhibit C

The Emerging Role of the Field Engineer



The Service Concept

The service concept currently being adopted by Sun is essentially summarised by the following phrase:

"Find the people with the expertise and use them."

The strategy adopted by the company in pursuit of this aim can be divided into two components.

Outsourcing. An indication of the extent to which Sun will contract elements of its service package to third parties has been provided by the analysis of the products offered. This approach is being adopted quite deliberately by Sun to satisfy two key requirements.

In the first instance, the company has adopted the "core competence" approach to achieve the level of quality required of its service business. The overall goal of the business is maintenance of the customer's IT investment at an optimum level of performance. Within this overall objective, Sun's core competence is the ability to satisfy the technically

complex requirements of the customer in terms of both consultancy and problem resolution. However, it would not pretend to offer great expertise in, for example, the business of parts distribution. By developing partnership agreements, Sun has allowed its service partners to capitalise upon their own particular areas of expertise, thereby maximising the quality of the overall service package.

The second requirement determining the adoption of a strategy of outsourcing is the level of flexibility offered by the approach. The future needs of the business can be met more rapidly and effectively by developing partnerships with companies with existing levels of expertise rather than attempting to develop skills internally.

Although the company attaches much importance to outsourcing activities that can be provided more efficiently by external suppliers, it should be stressed that Sun retains total responsibility for the delivery of the total

service to the customer. All fault calls pass through the company's Answer Centre and Sun maintains ultimate control of all aspects of service.

Professional Services. As has been indicated, the company regards professional services as the key element of its service product, both in terms of future growth prospects and because it is the area of core competence. A principal factor that illustrates this importance is the emerging role of the company's engineering staff, as shown in Exhibit C.

Sun has been able to develop a range of skills within its engineering force because of the demands of the business and because of the comparative youth of the company. The range of services

offered by Sun, combined with the need to manage its extensive outsourcing commitment, has enabled the company to offer a much more varied technical career path than that provided by many of its competitors. The youth of the company has facilitated the development of a service product to satisfy current demand without having to change the mode of operation of the traditional field engineering structure.

Although the company does distinguish between hardware and software support staff, the fact that engineering personnel have developed a breadth of support skills substantially reduces the requirement to maintain separate functional responsibilities, thereby increas-

ing the company's operational flexibility.

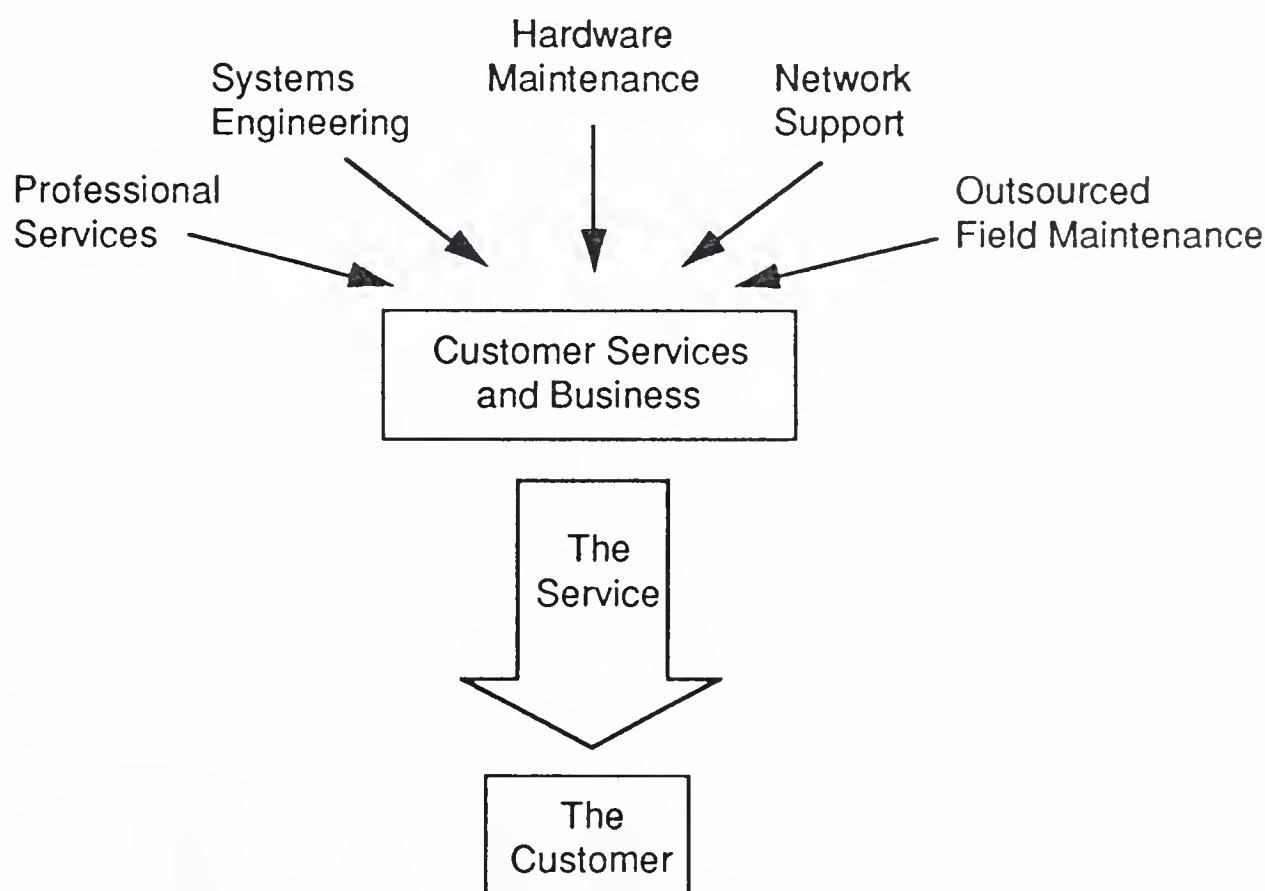
Satisfying Demand

The constituent elements of Sun's customer services product are summarised in Exhibit D. The principal factors underpinning the success of the product are as follows:

- The service provided by Sun is strongly oriented towards software support, network support and consultancy. In order to satisfy the support requirements of customers operating complex systems software platforms, it is clear that the customer services operation is being increasingly expected to offer professional services solutions.

Exhibit D

The Customer Services Product



Continued on next page
INPUT

Sun ... from page 5

- Sun's ability to develop engineering staff into systems engineers possessing both broad problem solving and consultancy skills provides operational flexibility significantly in advance of companies that maintain separate hardware and software support activities.

- The strategic development of outsourcing and the concept of core competence allows Sun to focus on key areas of the business and to provide high-quality total service that is efficient and flexible.

Sun provides a good example of the extent to which the service requirements of the customer and

the demands of the environment are shaping the customer services business. Sun has responded to the challenge by developing a clearly defined strategy which, although elegant in its simplicity, is indicative of the significant change that can be expected across the industry. ■

DEC Announces Subsidiary in Eastern Europe

DEC has announced the opening of a subsidiary operation in Czechoslovakia, and the signing of agreements with three Czechoslovakian companies to sell and service computer systems and solutions in Czechoslovakia.

DEC has made a series of investments in the emerging markets of Central and Eastern Europe. The establishment of a presence in Eastern Europe began in 1990, with the formation of a joint venture in Hungary. Since then,

DEC has taken a multifaceted approach to the opportunities created by the unification of Germany.

DEC's Czechoslovakian headquarters is being established in Prague, with plans to open an office in Bratislava in the fall of 1991. ■

Q&A

Q: What remote support is available from Bell Atlantic Business Systems Services for the IBM 3090?

A: The 3090 remote support feature is different from that of the other IBM mainframes (i.e., 4300 and 308X). When the system identifies a problem, it "calls home" to the support center in Frazer, PA.

The IBM 3083 CPU receives the call, and central dispatch is notified.

1. An FE is dispatched to the site, if one is not there already.
2. The National Support Organization for IBM products is notified. It extracts data from the Frazer 3083 system pertain-

ing to the problem, and details a course of action.

The account is then contacted to discuss the problem with the FE (assigned on-site) or the customer, and an appropriate course of action is determined.

All IBM 3090 systems have the "call home" feature built into them. Bell Atlantic BSS did an in-depth development effort to bring its "call home" system to market. A service processor monitors the 3090 for error conditions, and when certain threshold conditions are exceeded, the processor analyzes it and initiates the call to the Frazer facility.

Q: What are Bull's policies for servicing Printronix printers?

A: Bull is the exclusive national service subcontractor for Printronix, and has been for seven

years. There is an installed base of 10,000 printers that Bull services nationally. Coverage is as follows:

- Standard, Monday-Friday, 8 am to 6 pm
- Monday-Friday, 8 am to 12 midnight (additional 30% over standard)
- Seven days a week, 24 hours a day (additional 50% over standard)
- Standard plus Saturday, 8 am to 6 pm (additional 10%)
 - Over 10 hours on a Saturday (additional 20%)
- Standard plus Sunday, 8 am to 6 pm (additional 10%)
 - Over 10 hours on a Sunday (additional 20%)

Snippets

- ❖ Ferrari Holdings PLC, the U.K. computer services company, has gone into administrative receivership. It is anticipated that the receivers will attempt to sell the constituent elements of the company separately as going concerns.
- ❖ Barclays Bank, the U.K.'s largest clearing bank, has created a separate company (Barclays Computer Operations) for its IT function. The new company will have to bid for all work from Barclays and will be free to compete on the open market for external contracts. The primary motive for the move is to reduce costs in an attempt to see improved value for money from IT operations. Development work is not affected by the move and will remain in-house.
- ❖ A U.K. PC maintenance company—ATM, which specialises in the support of Novell Netware LANs—is offering refunds to contract customers when it fails to meet fix time targets. Failure to solve a problem within 24 hours of the fault call results in a refund to the customer of £20; an ongoing fault can be refunded to a maximum of £100. The scheme was launched last December and, to date, ATM has not had to part with any cash!
- ❖ In order to meet the needs of its growing numbers of international customers, Fujitsu has established an International Customer Support Centre in Spain. The principal activities of the centre are systems engineering support, research for international systems products, development of systems engineering tools, and international educational course development.
- ❖ Unisys has won a “not insignificant” TPM contract to maintain all the third-party equipment in McDonald's restaurants located in southern England. Unisys has stated that it has no intention of making a large-scale move into the independent maintenance market, but will restrict its TPM activities to strategically important customers.
- ❖ The U.K. Star Computer Group has sold its independent maintenance company, Star Computer Services, to Misys PLC for £2.7 million. The deal has resulted in the merging of the maintenance company with Misys' own maintenance operation, TIS.
- ❖ In February 1991, Novadyne Computer Systems, Inc. released a new on-line system diagnostics and disk utility called System On-Line Maintenance Executive (SOME). It provides transparent, remote disk error correction for its REALITY® line of mini and supermini computer systems.

Q&A Continued

Response times are next day, 4 hours, and 2 hours. There is also the option of having a dedicated on-site technician.

Previously, the warranty was for return to manufacturer only, and there was no warranty at all for dot matrix units. Now, there is a 90-day on-site warranty, but it's only available through the Printronix distributor network, not through OEMs or VARs. There are 12 distributors, but they do not have full nationwide service capabilities. This is where Bull steps in. It does a per-incident

repair, billed back to Printronix. There is no depot repair available. Bull has 200 service locations in the United States.

Time and materials rates for Printronix printer repair range from \$95/hour (8 am to 6 pm, Monday-Friday) to \$114/hour for outside standard hours. There is no minimum charge for time and material calls.

Installation varies by product line, ranging from \$268 for high-end units to \$230 for low-end machines. Bull also includes parts if there is a faulty part or cable. Bull states that it will do whatever is

necessary to get the unit installed and working. Bull does not bill Printronix or the customer for the replacement parts.

Q: What are Bell Atlantic Business Systems Services offerings in Canada?

A: Bell Atlantic BSS Canada supports AS/400, DEXTRA and MAXWATCH. There is no helpdesk and it does not support microcomputers in Canada. Focus is on IBM, DEC, and Xerox. ■

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Norsk Data - A Study in Radical Change

Norsk Data, the Norwegian IT supplier, has recently attracted considerable interest as a result of the joint venture it has established with Thomainfor, the French-based independent maintenance company. This month, Service Update is looking at the details of the partnership and the strategic thinking that led to the venture.

The Move Towards Multivendor Maintenance

Multivendor maintenance is being increasingly adopted by equipment manufacturers in response to perceived demand from customers and as a defence against the activities of the independent sector. Companies such as Digital, Unisys, Hewlett-Packard and Wang all include multivendor maintenance in their portfolios of customer

service products. However, the company that has attacked the market with the greatest aggression is Olivetti (please refer to Service Update, December 1990), which has realised very considerable benefits through the development of a pan-European multivendor service business. Norsk Data, too, sees considerable benefits to be gained through the possession of a comprehensive multivendor service business. However, the company is in the process of adopting a rapid, perhaps even revolutionary, change in its strategic direction, and the move into multivendor maintenance must be seen as an important element of this new strategy.

The Company

Exhibits A and B summarise the recent financial history of Norsk Data. In common with many

companies in the industry, reduced margins have had an adverse effect on financial performance. Norsk has responded to the changing market conditions by focusing very strongly on vertical markets, particularly central and local government and publishing, and by adopting open systems standards.

However, in addition to these developments, which are similar to those of many of the company's competitors, the U.K. operation is in the process of redefining its core business. The company has traditionally been regarded as primarily an equipment vendor, but it now regards its core business as the provision of services rather than the manufacture of equipment. Three factors account for this radical change of emphasis:

Continued on next page

Norsk... from page 1

- In 1990, 60% of Norsk's U.K. revenues were derived from services and 40% from hardware sales. Essentially, customer demand has dictated what the core of the business actually is and the company is responding to the needs of the customer.
- In addition to the threat posed to equipment vendors by falling hardware prices, the company has acknowledged the need to respond aggressively to the negative impact on revenues caused by the stagnation in growth of the proprietary hardware maintenance activity.
- Norsk sees substantial growth opportunities in the service markets of Europe and particularly in Scandinavia.

The move into multivendor maintenance is the first major tactical change undertaken in support of the new strategy.

Why Multivendor Maintenance?

It is now commonly recognised within the industry that renewed focus on the customer services business is required in order to compensate for falling margins from both hardware sales and hardware maintenance revenues. Companies are actively seeking to expand their service portfolios and to enter high-growth service markets. What were the factors that encouraged Norsk to move so decisively into multivendor maintenance?

Exhibit A

Norsk Data Total Revenues, 1985-1989

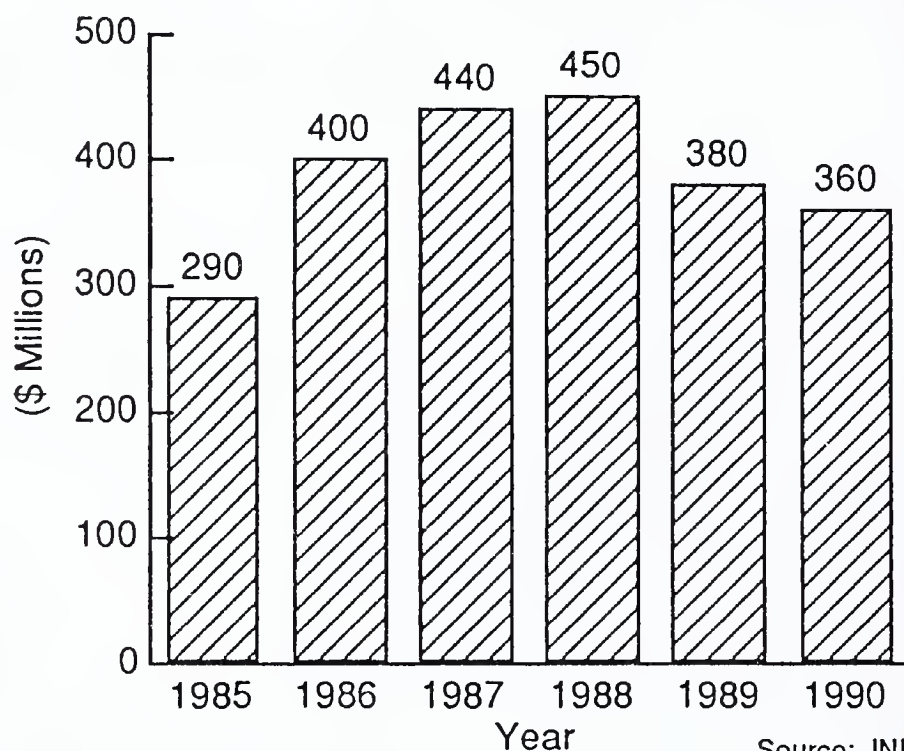
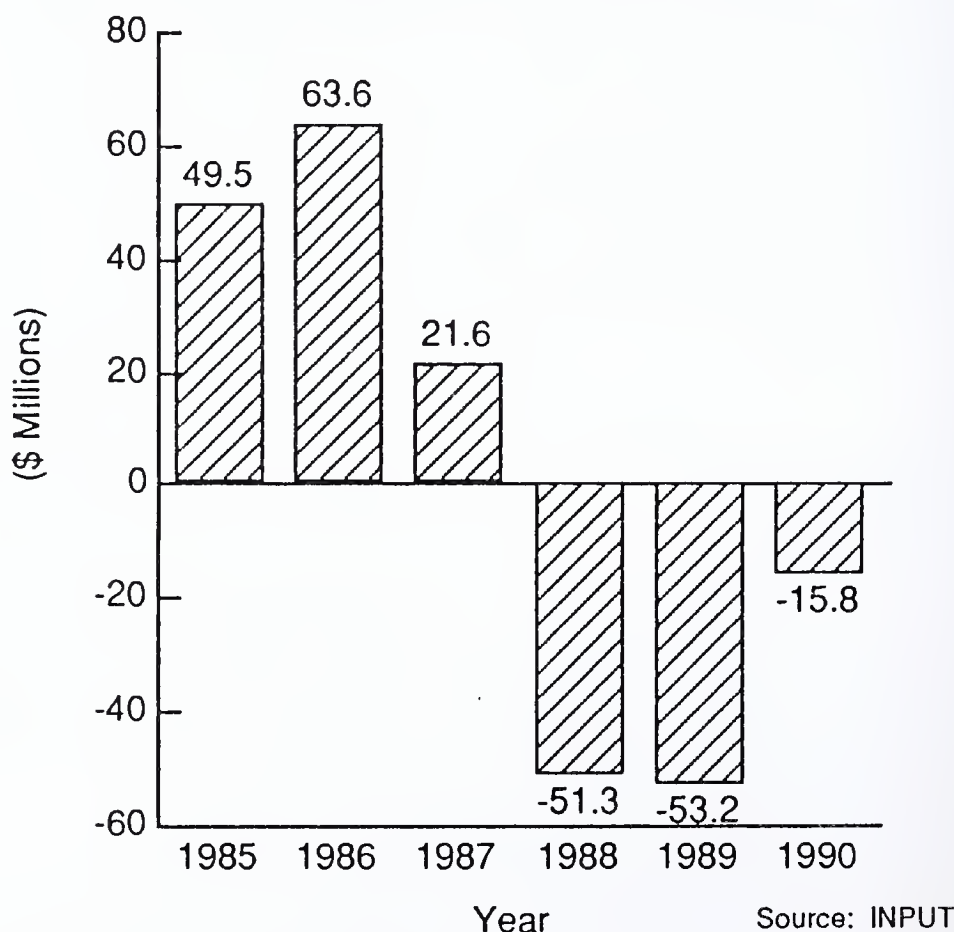


Exhibit B

Norsk Data Operating Profits, 1985-1989



- Norsk considers that there is considerable demand for single-source maintenance within the user base. Support for this assumption is drawn from the fact that the company succeeded in winning a major multivendor maintenance contract very shortly after launching the service and that the prospect list for such contracts is significantly more valuable than the hardware prospect list.
- The independent maintenance market in Scandinavia is, in Norsk's opinion, at an early stage of development. The third-party maintenance companies have not significantly penetrated the market, which is difficult to service profitably owing to the geography of the region.
- Norsk's U.K. customer services organisation includes a body of engineers who were

assimilated into the company when Norsk acquired Wordplex in the U.K. The engineering department therefore possesses the range of technical and logistical expertise required to meet the different service needs of products of widely varying technical complexity. The company consequently already has the appropriate balance of skills required to adapt to a multivendor servicing operation.

Although Norsk is currently putting considerable emphasis on the development of its multivendor maintenance service, it should be stressed that this service is only the first of a range of planned services targeted at network service and support.

The Thomainfor Link

Exhibit C illustrates the ownership details of the joint venture between Norsk and

Thomainfor in the relevant European markets. In the U.K., the Service Team operation will be managed on a day-to-day basis by Norsk, while in Benelux, France and Switzerland, Thomainfor is taking over the entire Norsk operation, including equipment and software sales.

In order to compete effectively in the multivendor maintenance market, Norsk determined that it needed to be able to demonstrate the following capabilities:

- Technical credibility across a wide range of products.
- Technical expertise on a range of products.
- Technical support capability.
- An organisation that has achieved critical mass in terms of size and geographic coverage.

Continued on next page

Exhibit C

Norsk/Thomainfor Joint Venture The Ownership Details

	Country			
	U.K.	France, Benelux Switzerland	Scandinavia	Rest of Europe
Ownership details	Joint venture Norsk holds majority stake	Thomainfor 100%	Norsk 100%	No change
Operational management responsibility	Norsk	Thomainfor	Norsk	No change

Source: INPUT

Norsk... from page 3

From Norsk's point of view, the joint venture with Thomainfor has immediately provided Service Team with a level of technical credibility across a wide range of products, supported by a high level of expertise and by Thomainfor's support organisation, which is able to offer pan-European service. The advantage to Thomainfor of the U.K. arrangement is that the joint venture capitalises on the critical mass and nationwide coverage of Norsk's existing service organisation to achieve a significantly larger share of the U.K. service market than it was able to achieve as an independent entity.

Another significant factor in favour of the venture is that Thomainfor has no plans to enter the Scandinavian market, thereby avoiding a potential conflict of interest in an area in which Norsk has particular interest. Norsk will take advantage of Thomainfor's support capability to provide the technical expertise necessary to move into the Scandinavian independent maintenance market.

Competitive Threats

A key component of the strategic thinking behind the move into multivendor maintenance was the competitive threat posed by the existing independent maintenance companies and by the equipment vendors offering multivendor maintenance services.

Norsk's view is that the major independent companies will not experience substantial growth over the short term for two reasons:

- The rapid rate of expansion through acquisition exhibited by the independence maintenance sector over the recent past is likely to give way to a period of consolidation, as attempts are made to integrate the disparate parts into a cohesive whole.
- The company considers that the competitive threat posed by third-party maintenance companies has been reduced by the excessive reliance on the use of price as a competitive weapon that has, in Norsk's opinion, led to an unsustainable level of profitability for many companies in the market.

Norsk considers that the potential threat posed by equipment vendors has decreased because of the tendency to see multivendor maintenance as a defensive tactic to protect traditional sources of revenue. On the other hand, Norsk regards the service as a significant business opportunity and one that will assist significantly in the development of the core service business. This important variation in emphasis will be used by the company to establish a competitive edge over alternative multivendor service offerings.

INPUT Comments

There is little doubt that the strategic direction adopted by Norsk is both radical and bold. It is the first instance in which a major partnership has been forged between an equipment manufacturer and a leading independent maintenance company.

The success of the company's entry into the multivendor maintenance market will be largely dependent upon two questions:

- How valid are the assumptions made concerning the comparatively weak competitive threat posed by the independent sector and equipment vendors?
- Are the assumptions concerning the high level of demand correct?

INPUT's research indicates that, in Western Europe as a whole, up to 70% of users prefer single-source maintenance as a service option. In the U.K., the figure is 60%. The indications are, therefore, that a very significant level of demand exists for the type of service offered by Norsk.

However, it is worth noting that the figures for 1990 quoted above show a very marked decline over the data for 1989, which, in the case of Western Europe, was 75%, and for the U.K., 84%. One possible explanation for this evidence is that users are expecting an increasingly specialised service from their maintenance suppliers, which implies a

preference for a number of specialist vendors. However, such an explanation fails to take into account the extensive use of subcontracting by multivendor suppliers.

A second, more feasible explanation is that the latent

demand is still very strong, but users' expectations in terms of the quality of true multivendor maintenance have not been met. The continuing strong performance of the leading true multivendor suppliers, such as Olivetti, lends support to this explanation. If this view is

accepted, the optimism demonstrated by Norsk may prove to be well founded.

The future development of Norsk's service business will be watched with interest. ■

News from the USA



Bell Atlantic Takes Last Step in Consolidating Business Systems Services and CDC

Bell Atlantic Business Systems Services has completed the last step in the integration of Control Data's third-party maintenance group into the former Sorbus third-party maintenance business. The company eliminated 240 redundant dual management and support positions that have existed since the CDC acquisition. The eliminated positions affect field sales and operations, field and headquarters administration staff, and management.

Other reorganization efforts at Bell Atlantic include the reporting of the Bell Atlantic Business Computer Technology Services companies within the Bell Atlantic Business Systems Services organization.

Hewlett-Packard Launches Diamond Edge Support Program

On April 1, Hewlett-Packard announced a support program designed to help its workstation value-added businesses (VABs) move their products to market more quickly and support their customers more effectively.

The new program, called the HP Diamond Edge support program, helps workstation VABs improve their time to market in three key ways:

1. Enhanced software support services to provide faster problem resolution at an HP response center.
2. HP consultants to work with VABs, reducing the time it takes to port or migrate their applications to new HP platforms or software. Workstation VABs can now

move onto new platforms and get applications to market more quickly.

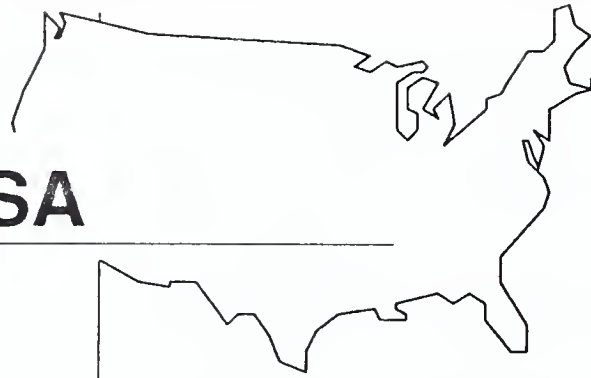
3. Selected training courses previously restricted to HP application engineers are now available to VABs' developers and support engineers. These courses enable VABs to develop applications more quickly and to provide better support to their customers.

VARs and OEMs can sell a complete maintenance solution by bundling the HP Apollo Comprehensive Maintenance service with their own application support. The VARs and OEMs in return receive discounts and credits enabling them to increase their profit margins.

All VABs can resell HP's scheduled training courses and register their customers directly. VABs receive a 10% discount on the price of the course when reselling, and those who participate are then eligible for the same discount when sending their employees to HP training.

Pricing is based on the unique requirements of the individual VAB. ■

Questions from the USA



Question:

What are GE Computer Services service offerings for PCs and LANs?

Answer:

LAN services include remote technical support, hardware repair, hardware installation, software installation, site planning, cabling, and hardware staging. GE services a wide variety of LAN hardware components and network types.

Personal computer maintenance is available for the PC itself as well as associated peripherals, including LANs. Hardware maintenance includes:

- On-site remedial maintenance, on-site installation service, network maintenance, carry-in depot maintenance, and other custom services. Standard features of on-site remedial maintenance contracts include repairs due to hardware failure; parts, labor, and travel; toll-free, 24-hour, 7-day/week response center. Optional contract features are after-hours service, multi-

year contracts, remote site coverage, flexible pricing options, expanded hours coverage, premium response time, and telephone assistance.

Question:

How many service employees does HDS employ?

Answer:

There are approximately 475 total service employees in the U.S., of which 400 are actually in the field providing on-site service.

Question:

How many U.S. service locations does HDS have?

Answer:

HDS states that there are 85 service locations nationwide.

Question:

What dealer programs do Apple and Compaq have for warranty repair and warranty reimbursement?

Answer:

According to ComputerLand, there is no on-site program for either Apple or Compaq. Apple depot has a sliding scale for reimbursement depending on the complexity of the repair. It costs the least for minor repair, and up to 50% more for the most complex problem.

Compaq depot is straight-line reimbursement, regardless of the problem. The dealer does the repair, and replaces the parts in the problem machine. The dealer fills out and sends back to the manufacturer a warranty claim form, accepted by most manufacturers (both Apple and Compaq accept it), and the defective part. The manufacturer sends back a replacement part. The manufacturer, at the dealer's request, may also give credit against future purchases. This credit may also build up, and when it reaches a certain point, the dealer can receive cash instead of the credit.

Both Apple and Compaq can also cross-ship (the manufacturers have different names for it); the dealer calls the manufacturer (when the part is under warranty), tells the manufacturer the part number, and within 15 to 30 days, the dealer receives the replacement part at no charge (as long as the manufacturer receives the defective part).

Snippets

- ❖ The research arm of Glaxo, the U.K. pharmaceutical company, is looking into a number of companies to find a long-term supplier for its PC maintenance requirements. The contract was held by Ferrari Technical Services, but became null and void when the company went into administrative receivership. Although Glaxo has taken out an interim contract with Videcom, the purchaser of Ferrari Technical Services, it is clear that the contract is "up for grabs."
- ❖ Sun Microsystems has reported that it is creating new subsidiaries in Finland, Belgium and Brazil to provide direct sales and support capability. This announcement brings the number of European subsidiaries to ten.
- ❖ It is reported that several facilities management companies in the U.S. are considering taking legal action in an attempt to prevent IBM from entering the facilities management market.
- ❖ Servicetec, the U.K. independent maintenance company, has announced that it has acquired the Dutch maintenance business of Econocom. Servicetec plans to manage the acquisition at arm's length and no staff changes are envisaged.
- ❖ IBM U.K. has taken equity stakes estimated at 10% in nine of its agents, including Bluebird Software Plc, Cyberaid Ltd. and JBA International Plc.

U.S. Snippets

- ❖ Granada Computer Services North America has announced that it has no plans to put the U.S. division up for sale. The company reports sales of \$30 million in North America and is negotiating another acquisition that will bring it another \$10 million in revenues.
- ❖ Intellogic Trace recently introduced telephone support for NetWare. The "995 Program" provides 25 phone support call incidents for \$995 per site with the guarantee of a one-hour response time by a CNE.
- ❖ Grumman Systems Support (GSS) has expanded its operations in Florida with the addition of sales and service representatives in Miami and Tampa/St. Petersburg. GSS already had offices in Melbourne and Stuart, FL, as well as the Kennedy Space Center.
- ❖ On March 18, 1991, Bell Atlantic Business Systems Services was the recipient of the 1991 Digital Review Target Award for "Best Third-Party Maintenance." This is the third consecutive year that Bell Atlantic BSS has received the award for providing DEC customers with services.
- ❖ Hewlett-Packard announced the inclusion of a maintenance program for workstation hardware, software, and the networking aspects of service in its suite of support services. The new program provides single-source support for customers using workstations in complex networks.
- ❖ As an expansion of its DEXtra Support program, Bell Atlantic BSS, in cooperation with The PARSEC Group, now offers layered product support for the 20 most popular applications, languages, and utilities running on DEC VAX/VMS systems.

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Digital—A Focus on Service

An increasing emphasis on the need to match IT investment with the strategic goals of the business it supports, combined with a perception that IT spending has not been subject to adequate management controls, are two key factors currently affecting the computer systems marketplace. A further issue that specifically affects the professional and customer services markets is that the development of services such as disaster recovery and systems operations (facilities management) blur the boundaries between the traditionally separate wings of the equipment vendor's service organisation.

In response to these factors, a trend is emerging within the industry. This trend can be

described as the merging of the professional services and the customer services operations into one functional entity.

Digital and Wang are two of the companies that have adopted this policy and this month Service Update is profiling the Digital Services operation as the leading example of this trend.

Exhibit A illustrates the degree to which Digital has succeeded in developing nonmaintenance customer services revenues that are significantly greater than those of its rivals. The company must be considered the most successful pioneer in the development of nonmaintenance services, and the introduction of the programme demonstrates clearly the extent to which the

company is pursuing its adopted service strategy.

The Service Concept

The central element of the service concept is that the Services product is targetted at servicing the needs of the customer's total business, not merely the equipment. Geoff Shingles, Managing Director of Digital Equipment Co. Ltd, has stated that:

"Good planning, the design of the most appropriate policies, procedures and infrastructure and the successful implementation and management of the resultant IT strategy all play an important role in supporting (the customer's) business."

Continued on next page

Digital... from page 1

It is apparent, therefore, that the company is placing equal importance on the entire service cycle—from strategic planning to ongoing maintenance and support. To reflect this approach, the company has adopted a four-level methodology that provides the overall structure into which the specific service offerings fit. The methodology, known as PDIM, covers planning, design, implementation and management and is illustrated in Exhibit B.

All services included in the programme are related to the level of the methodology to which they apply. For example, management consultancy contributes to planning, design and implementation—whereas hardware product services are exclusively involved at the management level. Each individual service product within the programme can be seen as contributing to a service cycle that is closely allied to the client's business development needs.

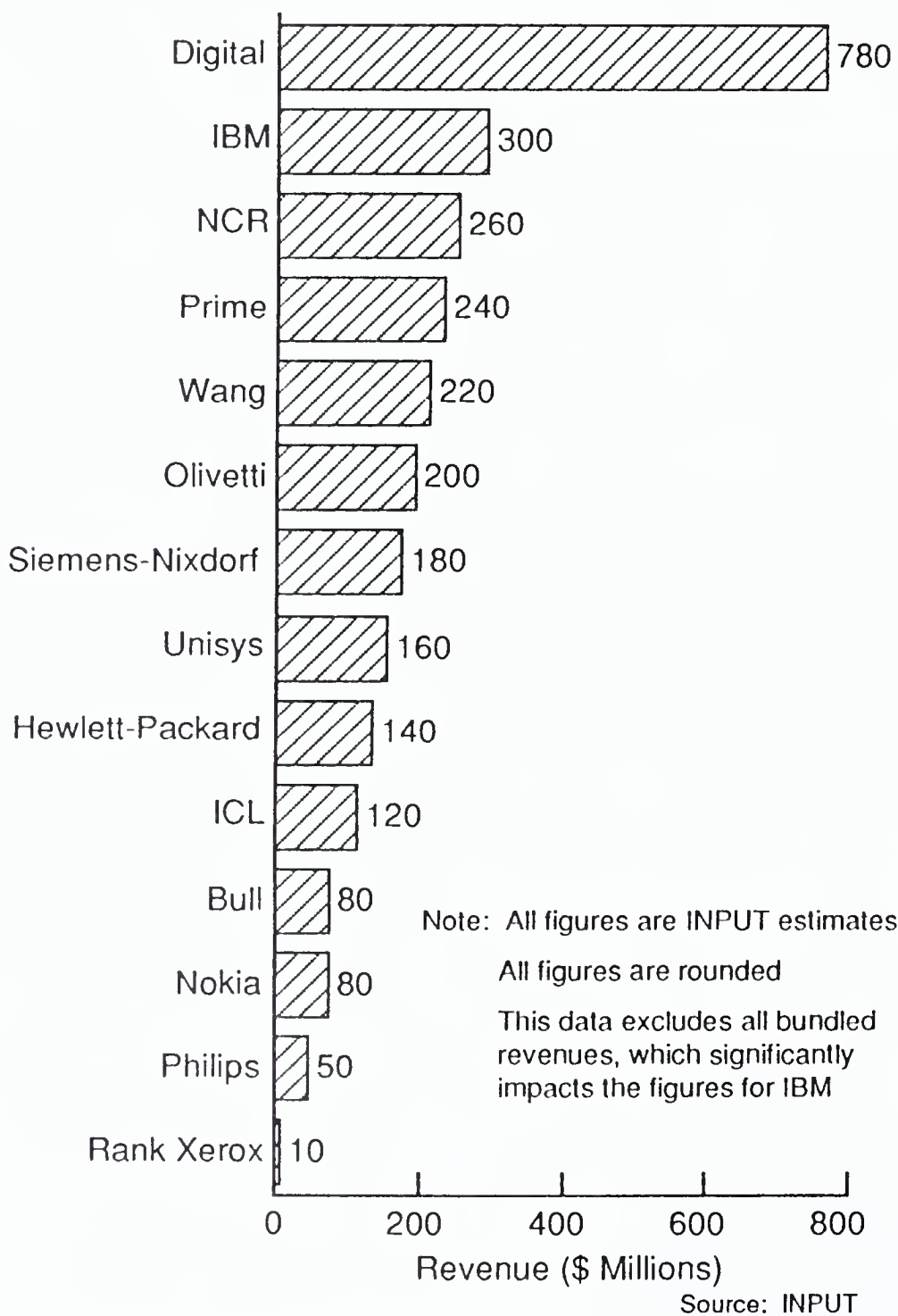
The Services

Exhibit C lists the major categories of service and the particular service products included in the programme.

Consultancy Services provide a range of modules covering assistance with the development of a business strategy that is aimed particularly at the business unit or divisional level of an organisation. At this level,

Exhibit A

Nonmaintenance Customer Service Revenues Western Europe, 1990



consultancy is provided at the business level—only comparatively minor attention is paid to specific issues related to information technology or information systems.

This high-level consultancy service is supported by a range of modules that focus on the design element of the service methodology as well as the planning phase. Examples include IT strategy planning, which aims to identify how IT can support the overall strategic direction of the business.

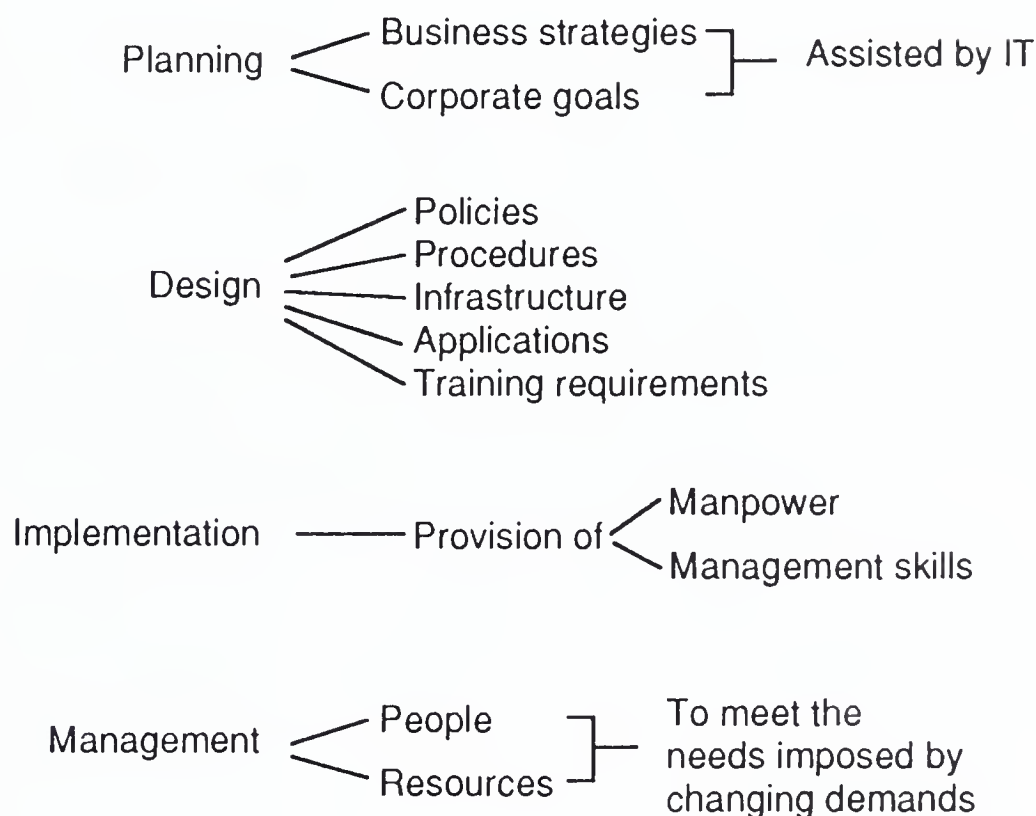
However, in addition to a focus on IT issues, other key elements required to support the business strategy are included. The key element is assistance with organisational development and change. The key point in relation to the management consultancy element of the programme is that issues relating to IS and IT strategies are placed firmly in the context of the overall needs of the business.

The applications consultancy module is targetted at the planning and design of IT solutions to meet the overall requirements of the client's business. The application of specific technologies such as EDI or products such as All-In-1 provide examples of the services covered by the module. The focus generally is applied to the design and implementation level of the methodology and, therefore, supports the planning phase provided by the management consultancy level.

The IT and IS consultancy services are intended to provide assistance in gaining maximum performance from systems solutions at the applications, systems software and equipment platform levels. Exhibit D provides a summary of the major elements provided at this level of the service.

Exhibit B

Plan, Design, Implement, and Manage The Methodology



Source: INPUT

In essence, consultancy services are aimed at providing services that satisfy the technical requirements of the customer but, more importantly, are designed to ensure that the IS and IT strategies adopted complement the overall business strategy agreed upon with the client.

Continued on next page

Exhibit C

Digital Services

- Consultancy Services
 - Management consultancy
 - Applications consultancy
 - IT consultancy
 - IS consultancy
- Education
 - Education and training services
- Support and Maintenance Services
 - Digital-assisted services - for companies wishing to develop self maintenance capability
 - Environmental services
 - Business protection services - Disaster recovery
 - Business support services - assumption of responsibility for managing delivery of Digital and multivendor hardware and software products
 - Network services
 - Hardware product services (desktop) - Digital and multivendor
 - Software product services
 - Hardware product services
 - Vendor equipment services - multivendor
- Project Services
 - Project services
 - Business support services

Source: INPUT

Digital... from page 3

Education and Training Services are aimed at all four layers of Digital's service model. In addition to the delivery of training through the DECtrain courses and delivery modules, the company offers consultancy to assist in the identification of training requirements and the development of suitable curricula. The service is aimed at maximising the benefit that the client will gain from an investment in IT.

Support and Maintenance Services include the majority of services traditionally associated with the customer service organisation. The categories of service provided are listed in Exhibit C. However, to illustrate the extent of the range of services covered, Exhibits E and F detail the service products contained within the hardware products and software products services, respectively. It should be noted that multivendor maintenance is included as a specific service, as is assistance to users who wish to develop their own servicing capability. The inclusion of a range of services covering multivendor maintenance indicates the extent to which Digital is prepared to enter co-operative agreements with third-party service providers to offer single-source maintenance.

Project Services cover a wide range of service products encompassing the management of wide-area networks, the provision of packaged solutions in response to defined business problems, and bespoke software development. The range of services covered is illustrated in

Exhibit G. This sector of the total Enterprise Services product covers the range of information services provided by Digital. A comparison of the Consulting, Support and Maintenance, and Project services provides a view of the comprehensive nature of the total service offering.

INPUT Comments

The fact that Digital is already Western Europe's biggest supplier of nonmaintenance customer services revenues provides a clear indication of the importance that the company

company is the market leader in the development of nonmaintenance customer services revenues and, as such, the Services programme is likely to have a significant influence on the thinking of the company's major competitors.

- INPUT anticipates that the management experience gained in running a \$700 million customer services operation as a profit centre will beneficially influence the management of the integrated business. The non-

Exhibit D

IT and IS Consultancy Services (Principal Elements)

Information Technology	Information Systems
Rdb design and implementation Database systems performance Network planning and design Message handling systems Planning and design Mailbus node implementation CASE design and implementation General technology consulting	Capacity planning Network management Performance consulting Environmental services Business protection services

Source: INPUT

places on service. However, the Services programme should be regarded as highly significant in its own right for four principal reasons:

- The programme illustrates a trend that, potentially, will influence the general provision of service within the industry as a whole. As has already been stated, the

customer-services element of the combined business has traditionally been managed at a smaller, more fragmented level than the customer services operation.

- One of the key elements of the total services package is the importance attached to service partnerships. The multivendor maintenance

Continued on next page

Exhibit E

The Support and Maintenance Service Hardware Product Services

- DEC System Support Service (DSS) - Hardware and software service contract
 - 12-hour cover - 4-hour response (hardware faults)
 - Remote diagnostics - access to problem database
 - Systems software licence for new versions
 - Telephone support and on-site critical software support
- BASICsystem Support Service (BSS) - for non-critical applications
 - 8-hour cover - next-day response (hardware facilities)
 - All other services as per DSS
- Extended Cover
 - Service coverage up to 24 hours, 365 days per year (all other services as per DSS)
- City Service
 - Reduces response from 4 to 2 hours for all hardware faults
 - Available for major urban areas only
- DECresident
 - Provision of resident engineer
 - Includes comprehensive site management and communications
- Hardware per call
 - Hardware support charged on time and materials basis

Source: INPUT

Exhibit F

The Support and Maintenance Service Software Products Services

- Software Support Service (SSS)
 - Single processor or clusterwide
 - Provision of licence to use new versions
- Media and Documentation Distribution Service (MDDS)
 - Media update supplied on
 - Tape
 - Disk
 - Compact disk
 - Provision of documentation update, including technical news bulletins
- Documentation Service (DS)
 - Provision of new version of documentation on request
- Compact Disk Distribution Service
 - Delivery of a combination of the following every 2 months
 - VAX/VMS software
 - On-line documentation
 - Product installation guides
 - Product release notes
 - Updated contents list
- Software Update Installation Service (SUIS)
 - An assigned software specialist
 - Update impact assessment and advice
 - Update planning
 - Installation of new and updated software

Source: INPUT

Continued on next page

Exhibit F (cont.)

The Support and Maintenance Service Software Products Services

- Software per call
 - Software support provided on time and materials basis
- Stand-Alone Telephone Support Service (SATS)
 - For companies with reduced requirement for support
 - Telephone support
 - Remote diagnostics - access to problem database
 - On-site support for critical problems
- System Manager Support Service (SMSS)
 - Systems performance management services covering the following:
 - Storage
 - Configuration
 - Performance
 - User accounts
 - Security
 - Systems operations

Source: INPUT

Digital... from page 7

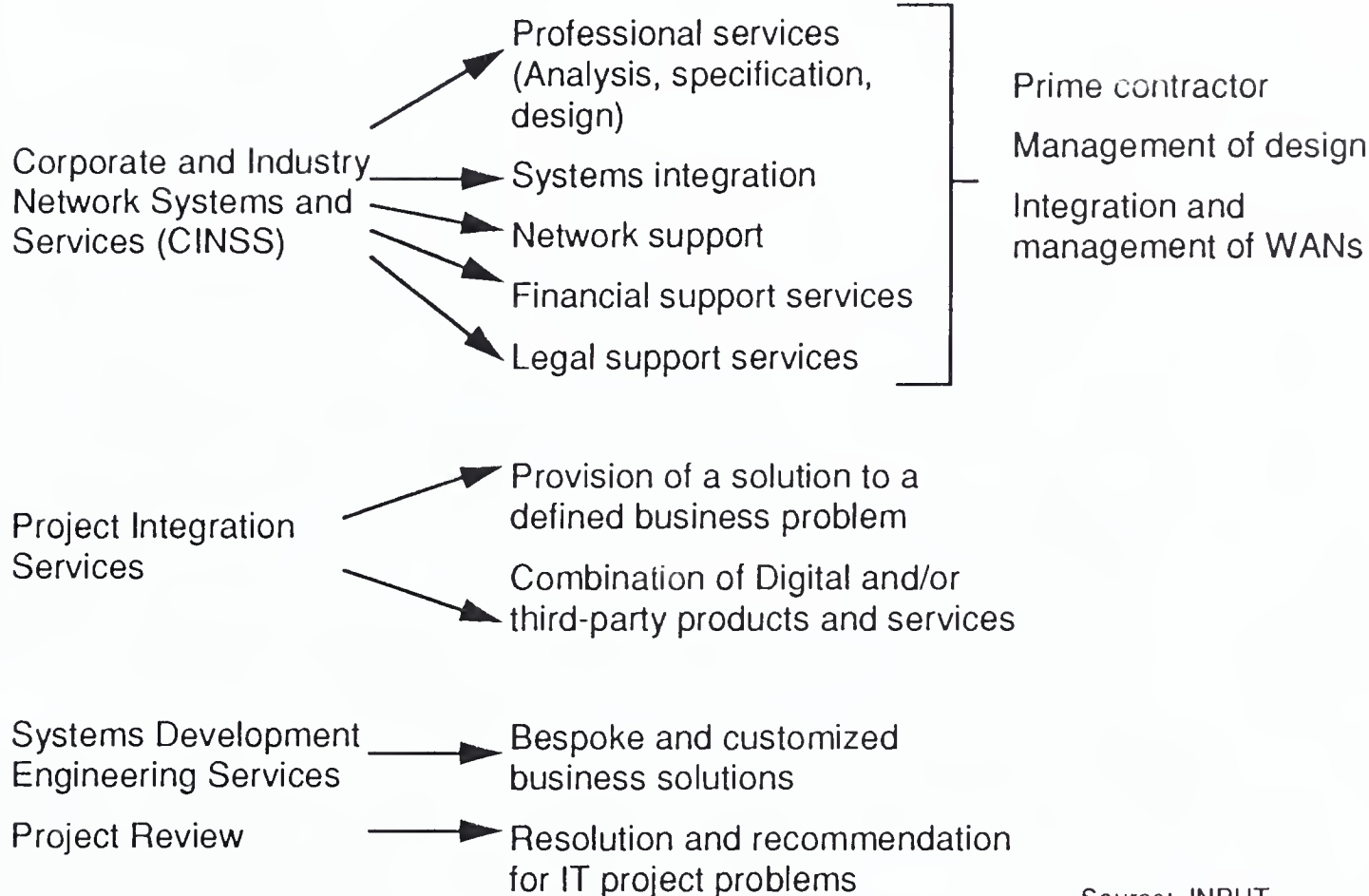
programme provides the principal example of this factor in that it explicitly includes the concept of approved contractors in the provision of multivendor support. It is anticipated that the demand for a single source of support will significantly increase the rate at which such relationships are developed.

- Perhaps the most important conclusion to be drawn from the service is the considerable stress placed on the degree to which information systems must support the client's business as a whole. The service is explicitly targetted to provide business solutions rather than to serve the technology. The need for this business emphasis has been explicitly expressed by computer users during the course of INPUT user research. Although the need to provide such a business focus is frequently voiced within the industry, Digital is one of the few companies to provide a comprehensive range of service products in response to this stated need.

The strategy behind the Services package is a response to many of the factors driving the development of the IT services business. The importance of the package is further enhanced by the fact that the product is from a leading service supplier. INPUT predicts that this service initiative will prove to be a significant influence on the thinking of many of Digital's competitors. ■

Exhibit G

The Support and Maintenance Service Project Services



Source: INPUT

Snippets

- ❖ As an expansion of the environmental service offered by Digital, the company has announced the formation of an Intelligent Building Services division within the service group. The services provided include all aspects of managing the construction of a building—including site selection, design, project management, installation of the technology infrastructure and handover to the customer.
- ❖ It is reported that Granada Business Services suffered a loss of approximately £700,000 for the six months to April. The company has also

indicated that the Computer Services operation will remain part of the group.

- ❖ Norsk Data Ltd has acquired Norman Magnetics Ltd, a disk drive repair business based in Farnborough, U.K.
- ❖ INPUT anticipates that Siemens-Nixdorf Informationssysteme will take a 20% stake in the troubled French microcomputer manufacturer SMT-Goupil. Although no confirmation has been provided, Siemens-Nixdorf has stated that technical and industrial agreements are being discussed.

Snippets (Cont.)

- ❖ Dell, the PC manufacturer, has announced plans for an aggressive expansion into Europe. Subsidiaries have been opened in Benelux and Finland; a Spanish office is planned for the summer. Expansion into Norway, Denmark and Switzerland will follow in the medium term, and the company's manufacturing plant in Limerick has recently begun production. The company returned revenues of \$546 million in 1990; revenues are forecast to increase to \$750 million in 1991.
- ❖ CAP Gemini Sogeti has used its 70% stake in Hoskyns to launch a new French facilities management company, CAP Sesa Hoskyns. The company is a joint venture between Hoskyns and CAP Sesa in which Hoskyns has overall control. The company has stated that the French market is the first priority but has indicated an intent to develop a facilities management operation in all countries where CGS has a significant presence.



On May 16, 1991, Digital Equipment Corporation announced Help Desk Service, a modular set of capabilities that will be customized to each customer's needs. The three primary service modules are Evaluation and Design, Implementation and Operation, and Problem Resolution Coordination and Management Reporting. The Help Desk Service is capable of handling multivendor environments.

Kaiser Permanente's Ohio region has selected Bell Atlantic Business Systems Services as

one of seven "preferred (information systems) vendors." Bell Atlantic Business Systems Services now receives 95% of the region's computer service business.

Bell Atlantic Business Systems Services announced the signing of strategic service alliances with Amdahl and NCR. Under the agreement with Amdahl, Bell Atlantic will provide support of non-Amdahl equipment at existing Amdahl customers' sites. Amdahl believes the agreement symbolizes a commitment to top-quality

service for its customers' multivendor environments.

The service alliance with NCR offers NCR's customers support for IBM and DEC computer systems from Bell Atlantic through a single point of contract. The agreement enhances NCR's ability to provide multivendor service for its customers, with the actual provider of service transparent to the NCR customer. Similarly, Bell Atlantic will subcontract NCR to provide maintenance services on products not serviced by Bell Atlantic.

It is not known at this time the effect that the recent acquisition of NCR by AT&T will have on service alliances.

Novadyne Computer Systems has announced a joint service agreement with Secure Systems Group, Inc., a supplier and maintainer of TEMPEST and ruggedized computer products. The agreement provides single-source hardware and network service to customers requiring

both TEMPEST and non-TEMPEST system maintenance. The companies will jointly market their services to current and potential customers.

BULL HN has announced that it has agreed to purchase the assets of PTXI.

Xerox Corp. is leaving the third-party maintenance business, citing increasing competitive cost pressures as the reason. Current contracts will be honored, but no new agreements will be signed.

ARDIS has signed a \$15 million agreement with NCR to provide access to its nationwide radio data information service.

ARDIS will notify NCR's 5,000 customer service field engineers of dispatch information and significant details on their on-site calls via the network. NCR is spending an additional \$15 million to purchase Motorola KDT 840 hand-held terminals for its field engineers to receive the information.

Sears Business Centers has formed a new division, Sears Hardware Services Group. This new group will provide computer hardware support and professional services to Fortune 500 clients; current clients include Dean Witter, Allstate, and Exxon.

Novadyne Computer Systems now has an on-line systems diagnostics and disk utility. The System On-Line Maintenance Executive (SOME) software will provide remote disk error correction for its Reality line of mini and supermini computer systems. SOME can be installed via modem without interrupting the system.

Hotsite, the disaster recovery division of CompuSource, has agreed to merge with Continental Computer Assurance Corp. (CCAC) in Newton, PA. This makes the fourth disaster recovery facility for Hotsite. Other centers are located in Cary NC, Niles OH, and Tewksbury MA. ■

Questions from the U.S. Hotline



Q: Who are the authorized third-party maintainers for Codex and Burr-Brown modems?

A: According to Codex, there are no companies authorized to make repairs on its units. Even large service providers will subcontract the service of the modems back to Codex.

Burr-Brown handles all of the maintenance on its modems through its

subsidiary, Dataforth, located in Tucson AZ. Terms are return to factory; turnaround is usually 24 hours.

Q: What are the service offerings for PCs, LANs, and Helpdesk from GE Computer Services?

A: GECS offers on-site remedial maintenance, installation service, network maintenance, carry-in depot service, and custom services

on personal computers and peripherals. Standard features include repairs due to hardware failure; parts, labor and travel; and a toll-free, 24-hour, 7-day-a-week response center. Available options include after-hours service; multi-year contracts; remote-site coverage; flexible pricing options; expanded hours coverage; premium response time; and a telephone assistance center. ■

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Service Update

Route:

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A Publication from INPUT's Customer Service Programme—International

June 1991

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- 1 Sitestream—A Market-Led Approach to Service from Unisys
- 5 News from the U.S.
- 6 Questions from the U.S. Hotline
- 6 Snippets

Sitestream—A Market-Led Approach to Service From Unisys

The maturity of the IT market is an issue on which the minds of many strategic thinkers within the industry are focussing. A range of factors are affecting the business, such as concerns within the user community over the benefits derived from IT investments, the slowdown in a number of IT market segments such as, for example, the hardware maintenance operation, and the severe squeeze on profitability currently being experienced by the majority of established equipment manufacturers.

Although the current economic problems in the U.S. and Europe undoubtedly account for many of the difficulties facing the business, it is increasingly recognised that the industry is

moving towards the mature phase of the market life cycle, as illustrated in Exhibit 1. It is anticipated that this evolution will be accompanied by a change of marketing emphasis within the industry, which will be increasingly driven by the following factors:

- Market segmentation
- Product differentiation
- An increase in "buyer" power at the expense of "supplier" power

Companies will increasingly have to focus closely on the needs of the customer and to use service to differentiate themselves from the competition. Unisys is one

company that is seeking to develop a range of service products to satisfy the needs of a changing market, of which "Sitestream" is the first example.

INPUT is therefore featuring this service because it provides a good example of the range of service products currently being offered by Unisys and because it serves as an example of a development that addresses the impact of the environmental changes facing the industry.

Sitestream—The Product

Sitestream is specifically designed to provide a comprehensive range of services for a multisite IS project. It

Continued on next page

Sitestream... from page 1

utilises the full range of Unisys' expertise in customer services, professional services and financial planning to provide a customised business solution that complements the range of skills possessed by the customer. The key aspects of the service are illustrated in Exhibit 2.

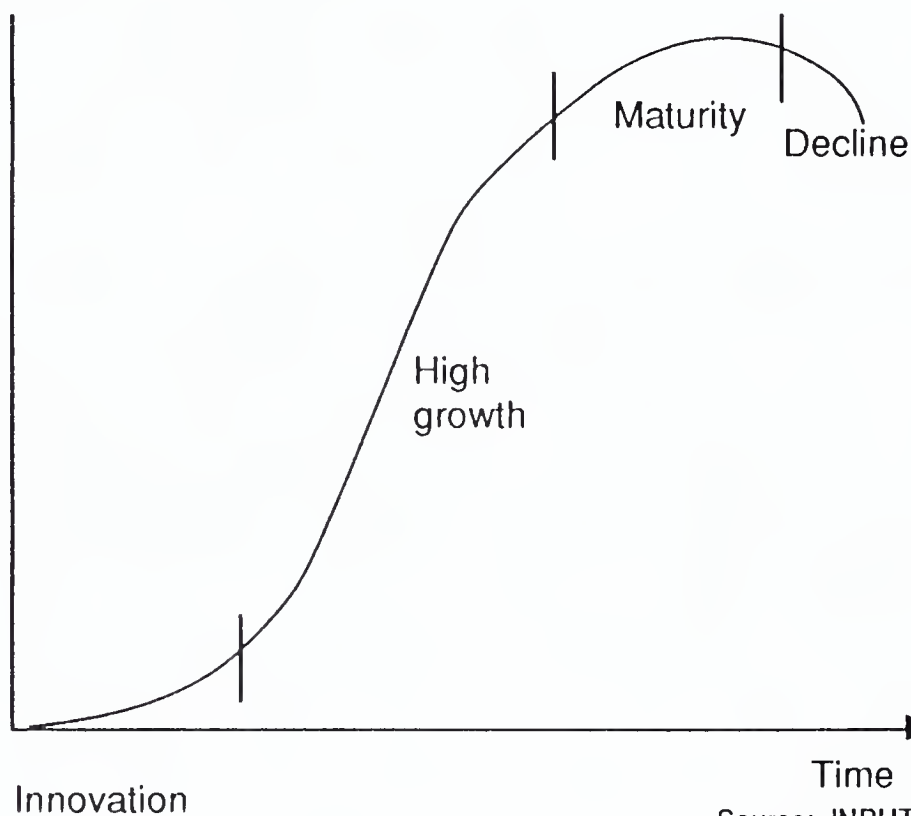
"To provide quality services and products in partnership with organisations to enable them to implement major multi-site installations to time, budget and specification whilst ensuring minimum disruption to the business."

The constituent elements of the service are illustrated in Exhibit 3.

Exhibit 1

The Market Life Cycle—A Reminder

Revenue



Although the elements contained within the overall service are common to the integrated service products offered by the majority of vendors, there are a number of factors that differentiate the approach adopted by Unisys:

- Care is taken to provide a complete project management service directly to each element of the business included within the overall project. An example of this approach is that of a multi-site project implemented in one of the U.K.'s major breweries. Each of the public houses included in the project had its own project plan in which the publican was fully involved. Unisys is careful to ensure that all the client's staff affected by a project are kept fully involved; Unisys does not simply liaise with a central point of contact.
- An intrinsic element of the overall approach adopted by the company is the stress placed upon the importance of joint planning. Sitestream is regarded as the development of a partnership

In order to co-ordinate the multi-disciplinary requirements of the service, Unisys has established a Sitestream business team tasked with the following business goal:

with the client company in which the strengths of the customer are complemented by the required level of support from Unisys. The range and depth of talent employed by a company the size of Unisys is seen as a resource that facilitates building a high degree of flexibility into the service product.

- Considerable emphasis is placed on the development of the client's own staff. The identification of training needs is seen as a key element of the product, illustrating the complementary nature of the service. Unisys is aware that the success of a Sitestream project is heavily dependent on the ability and motivation of the customer's staff to gain maximum benefit from the technology.

The Market

As has been stated, Sitestream is the first of a series of service products that Unisys is developing in response to the environmental factors facing the industry. It is therefore the result of a significant marketing effort on the part of the company to ensure that the product satisfies a defined customer need. The following points were identified as the principal factors dictating the form of the service:

- The networking market, as one of the two fastest growing sectors within the IT market (the laptop market being the other), is leading to growth in the number of multisite installations.

Exhibit 2

Sitestream—The Key Elements

- A multisite service product
- Customised to complement the skills of the client
- A total service solution incorporating:
 - Customer services
 - Professional services
 - Financial planning

Source: INPUT

- A number of organisational issues are increasing the strategic importance of the branch office activities of large corporations. Such factors include:
 - The delegation of operational decision making to the actual site of business activity. Branch managers are increasingly being given

Continued on next page

Exhibit 3

The Constituent Parts

- Project management and consultancy
- Education and training
- Environmental design and consultancy
- Software/hardware integration and support
- Network design and commissioning
- Project finance
- Maintenance and support

Source: INPUT

Sitestream... from page 3

the responsibility of running their own business, thereby increasing the strategic importance of remote sites and the need to supply quality information to the decision maker.

- The increased attention being given to the importance of customer satisfaction is leading to an investment in the technical infrastructure installed at the point of customer contact.
- The increasing acceptance by senior management of the importance of IT as a strategic business tool.
- Although these factors obviously provide considerable opportunities for the DP department within user organisations, they also present a number of problems in terms of, for example:
 - Shortages of appropriately qualified staff
 - A lack of experience in the project management of complex multisite projects
 - The need to identify training requirements for staff at remote sites with little previous exposure to the administration of IT systems
- Despite the potential of IT to assist in the realisation of a strategic goal, the user community has a low

expectation of success from investment in IT. In response to this scepticism, Unisys has paid particular attention to the need to provide, and to be seen to provide, a well focussed, well planned, quality service that meets the operational requirements of the client and is also delivered on time and within budget. This factor also explains the stress placed on human factors within the provision of the service. It is known that such projects will only succeed if all participants accept the operational benefits to be derived and are sufficiently well trained to manage the technology confidently.

In addition to the fact that the design of the product closely reflects these factors, one further point reinforces the market-led approach adopted by the company. Sitestream is a U.K. product, tailored specifically for requirements identified within the U.K. market. Although other European operations are looking at the provision of similar products, the intention to offer Sitestream as a pan-European service is being carefully evaluated. It will be the responsibility of individual country operations to identify specific market requirements and to develop products to meet defined needs.

INPUT Comments

Although the contents of Sitestream as a service product appear to be similar to many of the services currently being

promoted within the market, the importance of the product should not be underestimated. It provides a clear example of an approach to service product development that accounts for the environmental factors influencing the industry and that is directly focussed on the needs of the market.

The methodology adopted in the development of Sitestream provides an interesting comparison to the way Digital has approached the marketing of the service product. Digital, by combining the professional services and customer services operations, is providing a wide-ranging service package that includes the definition of a business problem and offers the resources necessary to provide a solution to the problem. The boundaries of the business areas that the service is intended to serve remain undefined, implying that the service is regarded as a resource to be applied to a wide range of problems rather than a product aimed at a specific market.

Unisys, however, has consciously sought to define a specific market need that satisfies two key requirements:

- It must offer a level of demand to generate a profitable rate of return for the company.
- It must utilise the areas of expertise possessed by the company in order to permit the creation of a sustainable competitive advantage.

Sitestream was designed to meet both the defined needs of the target market and the specified business objectives of Unisys.

It should be stressed that Sitestream is the first of a range of service products that Unisys

is currently developing, all of which will evolve from a clear focus on the needs of the defined market segment being attacked. The importance of Sitestream is derived, therefore, not so much from the contents of the service itself, but in the

strategic thinking that underpins it.

The potential success of the approach can be judged by the positive response Unisys received in the early days of launching the service. ■

News from the USA

santax 100

Novadyne Teams with Secure Systems Group

Novadyne Computer Systems, Inc. has announced the signing of a joint services agreement with Secure Systems Group, Inc. of Irvine, CA. Secure Systems Group (SSG) is a supplier and maintainer of TEMPEST and ruggedized computer products.

The agreement provides single-source hardware and software service packages to customers who require TEMPEST and non-TEMPEST systems maintenance. The companies will jointly

market the services to current customers and prospects. For most TEMPEST sites, SSG will be responsible for the TEMPEST equipment and Novadyne will handle the maintenance of the non-TEMPEST equipment.

New Disaster Recovery Services available for Amdahl

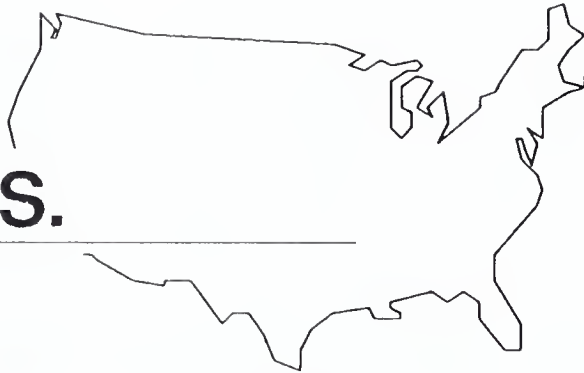
Amdahl Corporation has announced three new disaster recovery services: disaster recovery planning and implementation, disaster recovery audits, and disaster

recovery business impact analysis. These services are designed to aid the successful recovery of computer resources, as well as the continued processing of critical data, when a catastrophe occurs.

The disaster recovery planning services are designed to assess the exposure of the company if there is a prolonged or indeterminate loss of the data center, and then be able to plan for that occurrence. The disaster recovery audit is an independent, objective audit of the effectiveness and reliability of the existing disaster plan. The business impact analysis provides an evaluation of the operating, financial, and regulatory impact of a data center disaster.

The services are available internationally and range in price from \$25,000 to \$200,000. ■

Questions from the U.S. Hotline



Q: Has IBM enhanced its EMO program in the last year?

A: IBM has enhanced the EMO program to include selected installed machines, as well as new machines. Commercial customers may select contract terms from 24 to 60 months for new machines, and installed equipment not currently being marketed. State and local government customers may select

contract terms from 12 to 60 months for new machines and up to 60 months for currently installed machines. Proposals are price protected for one month.

Q: How does HP's predictive maintenance for the HP 3000 work?

A: The predictive support service allows customers to use the HP proprietary Predictive Support software, which reads and analyzes system and peripheral logfiles and prints a status report on the system's functioning. The software will also send data to HP's Response Center for further analysis and diagnosis by HP customer engineers, who will determine if any on-site action is necessary. ■

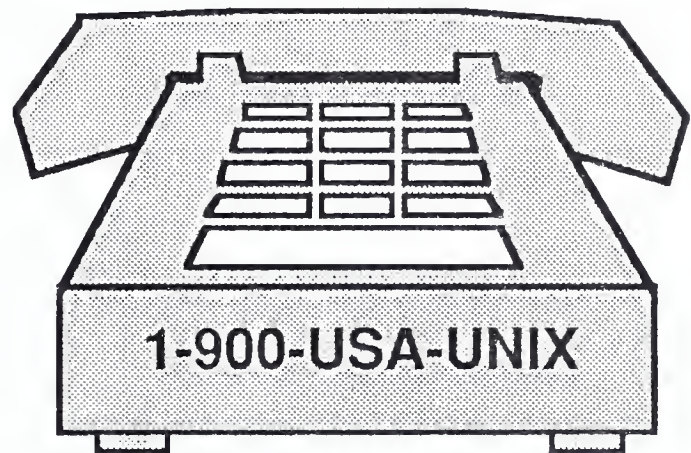
Snippets

- ❖ Hoskyns PLC reported an 8% drop in turnover to £102.8 million, although pre-tax profits rose 5% to £8.6 million. The company is anticipating that business will continue to be adversely affected by the economic downturn and sees no sign of an upturn in the market.
- ❖ Digital has opened a £1 million disaster recovery centre on the Isle of Man in the U.K., currently supporting three contracts.

- ❖ Siemens Nixdorf Informationssysteme had a loss of \$214 million on a turnover of \$2,872 for the 6 months to March 31, but is currently seeing an increase in its order books.
- ❖ A "non-threatening" facilities management service has been launched by the U.K.'s Gatton Synthesis Ltd. The intention is to relieve DP departments of application support responsibilities, thereby allowing them to concentrate on new developments.

U.S. Snippets

- ❖ Wyse has recently released four new and revised service programs. The first, Quality on Arrival (QOA), provides a new procedure for returning defective products. End users, VARs, or distributors return the products directly to Wyse, which repairs it and sends it back within five business days of receipt. The next program has extended the VP Express to include repairs or exchanges of board-level products within 48 hours via Federal Express at Wyse's expense. The third has combined the customer and technical support services into one toll-free telephone support service. Clients are no longer shuffled from one to another. The fourth is a change in the discount program. Wyse resellers and end users can purchase reconditioned equipment at up to a 75% discount.
- ❖ Sun has increased its network offerings through strategic partnership agreements with AT&T Computer Systems (cabling and networking products and services to Sun for resale to its customers), Anixter Brothers, (cabling and network components including bridges, repeaters, and connectors), and Cabletron (offering Cabletron's complete line of network products and services).



- ❖ Interactive Communications, a service bureau, is offering UNIX support through a 900 number at the rate of \$1.99 per minute. The 1-900-USA-UNIX is staffed by professionals from Today's Computers Business Centers.
- ❖ NCR and Amdahl have signed an agreement with Bell Atlantic Business Systems Services (BABSS) to provide maintenance on their equipment as subcontractors.
- ❖ On-Line Software has introduced an automated installation management system for its ProSeries called ProInstall. The system provides a centralized, on-line facility for installing and maintaining all ProSeries products.

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INPUT[®] Service Update

Route:

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A Publication from INPUT's Customer Service Programme—International

July 1991

IN THIS ISSUE:

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- 6News from the USA
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Applied Learning International

This month the Service Update is viewing the training market by profiling Applied Learning International, one of the leading independent training companies operating in Western Europe. Because IS training is one of the rapidly growing segments of the customer services market (INPUT is forecasting a compound annual growth rate of 14% for the IS training market up to 1996), the approach adopted by a leading company in the market will be of interest to equipment vendors that are increasingly merging the operations of their customer services and professional services operations.

The Company

Applied Learning International is one of the leading providers of Technology-Based Training (TBT) worldwide. The training delivery modes are via interactive terminals handling a variety of multimedia training products. Delivery to the customer is by courier from a warehouse.

Applied Learning International was founded at the end of 1987 as a result of a merger between two companies, Advanced Systems Incorporated (ASI) and Deltak Training Corporation. Previously these two companies were competitors, each

supplying training products and services—in part related products and services, in part related to the implementation of information technology in user organisations.

The new company resulting from the merger, Applied Learning International, is a wholly owned subsidiary of National Education Corporation (NEC), which is based in California, USA. Applied Learning is the largest division of NEC. Other divisions include:

- International Correspondence Schools (ICS)

Continued on next page

ALI ... from page 1

- Steck-Vaughn, an educational publishing company
- Motivation Systems and Sales Training Company
- Vocational schools

Worldwide NEC achieved just over \$370 million in revenue in 1990. Although this revenue indicates a progressive decline from almost \$460 million in 1988 and a net loss for 1989 (\$29 million approx.) and 1990 (\$15 million approx.), these changes are explainable. A revenue decline of about \$31 million between 1989 and 1990 is attributed to Applied Learning training and publishing revenues and is due to the introduction of new terms and conditions for customer contracts that result in shorter contracts and more closely

matched revenue and cash receipts. The result in contract terms is to reduce revenue from multiple-year contracts.

A summary of the financial results of the parent company, NEC, is provided in the Exhibit A.

Applied Learning is listed on the New York Stock Exchange under the name of National Education; the stock is a Capital Growth Fund in which all profits are reinvested back into the company.

Applied Learning International is divided into two operational units—Domestic USA and International. The International division is responsible for all marketing and sales outside the USA, and the products are marketed in 50 countries through 70 offices. Representation in some countries is through

independent distributors, and all country-level subsidiaries and distributors report to International. The International management team resides in the U.K. Head Office, which is located in Chiswick on the outskirts of London. However, a number of International staff are also based in the Corporate Headquarters in Chicago, USA. In addition to the management of the two operating divisions, a Corporate Executive Committee co-ordinates worldwide activities.

The U.K. company is the largest subsidiary of International.

The distribution of NEC revenues by geographic region is illustrated in Exhibit B.

The Training Products

All training products provided by Applied Learning are based on Technology-Based Training (TBT) and are delivered as

Exhibit A

National Education Corporation Worldwide Five-Year Financial Summary (\$ Thousands)

Year	1986	1987	1988	1989	1990
Net Revenue	319,047	396,163	457,477	400,828	371,394
Net Income (Loss)	15,191	(679)	46,147	(29,341)	(14,939)

Source: INPUT

Exhibit B

National Education Corporation Geographic Revenue

Geographic Region	Percentage of Revenue		
	1988	1989	1990
USA	80	81	83
Europe	12	12	9
Canada	5	5	5
Other Foreign	3	2	3
Total	100	100	100

Source: INPUT

multimedia packages designed to run on interactive terminals. The media used for training include:

- Computer-based training (mainframe and micro)
- Interactive video instruction
- CD-ROM
- Linear videotape
- Audiotape

In cases where "live" training is required, this function would be contracted out by Applied Learning.

The training provided focusses on five key areas:

- Information professionals—aimed at technology

management. This is the core activity of Applied Learning and accounts for about 60% of AL's business in Western Europe. Within this area, activities are mostly concerned with the mainframe environment and are designed to help customers use mission-critical information technologies as strategic business tools, and they aim to provide the management skills needed to take full advantage of the systems. The scope of training ranges from programming to management skills and includes:

- Strategic uses of computing
- Information engineering
- CASE tools

- Artificial intelligence and expert systems
- Client/server model
- Networks as a vital business link
- Systems Application Architecture
- Relational database management systems
- Managing strategic systems
- Departmental computing—aimed at information-processing skills primarily for midrange systems but also including mainframes. Programmes focus on both proprietary and open systems; provide for the skill needs of analysts, programmers and operations staff; and range from entry-level to management positions. Included within the scope of this training is:

- Entry level and programming
- Systems analysis and design
- Systems Application Architecture
- MVS, VM, VSE, VS1
- AS/400, System/36, System/38
- Digital
- UNIX

Continued on next page

ALI ...from page 3

- Database and fourth-generation languages
- DB2 and SQL
- IMS and IDMS/R
- Data communications and networks
- CICS
- End-user computing—aimed at providing courses to help people in all areas of an organisation to apply new technologies to achieve business goals. The courses can be customised to include training on data security, office automation and mainframe or microcomputer systems. Courses include:
 - Information centre overview
 - Computing fundamentals
 - Personal computing
 - Mainframe computing
 - Departmental computing
 - Office information systems
- Manufacturing—aimed at providing comprehensive training related to the

acquisition of manufacturing and industrial skills. Courses focus on modern integrated manufacturing (MIM) technologies, new technical skills and the people issues involved in MIM implementation. Courses include:

- Total Quality Management (TQM)
- Industrial skills
- Just-in-time (JIT)
- People, organisation and culture
- MRP II
- Computer-integrated manufacturing (CIM)
- Purchasing

Applied Learning also provides a range of human resources development courses.

The company is active throughout Western Europe, and the revenues in this geographic area were almost \$45 million in 1990. The geographic breakdown of Applied Learning International revenues in Western Europe is tabulated in Exhibit C.

The Issues

The two key issues raised by Applied Learning are:

- The pace of change within the IT industry as a whole, including organisations and products/systems. The key challenge presented by this issue, for Applied Learning, is supporting the management of this change.
- Implementation of workplace on-line training tools and support. The key challenge for Applied Learning in this area is being able to provide reference information to support user training needs.

Other issues raised by Applied Learning International related to training activities in Europe include the following:

- The information services function within companies is becoming more decentralised. Therefore, training needs throughout companies are becoming more fragmented. The challenge is how to extend the range of contacts from the original single contact in an organisation in order to handle and penetrate a fragmented organisation.

Exhibit C

Applied Learning International European Revenues by Geographic Region

Geographic Region	Revenue (\$ Millions)		
	1988	1989	1990
UK/Eire ¹	28.6	30.4	31.3
Benelux ¹	2.5	2.8	3.2
Germany ¹ / Switzerland ² /Austria ¹	8.9	8.7	8.8
France/Italy/ ³ Spain/Portugal	0.3	0.4	0.4
Scandinavia/ ² Finland	0.6	0.8	0.9
Total	40.9	43.1	44.6
Annual Growth (Percent)	-	5.5	3.5

Notes: 1 indicates subsidiaries

2 indicates distributors

3 indicates agencies

Source: INPUT

an attempt to retain control. The challenge for Applied Learning is to manage the change from single-contract mode and the change in user working practices.

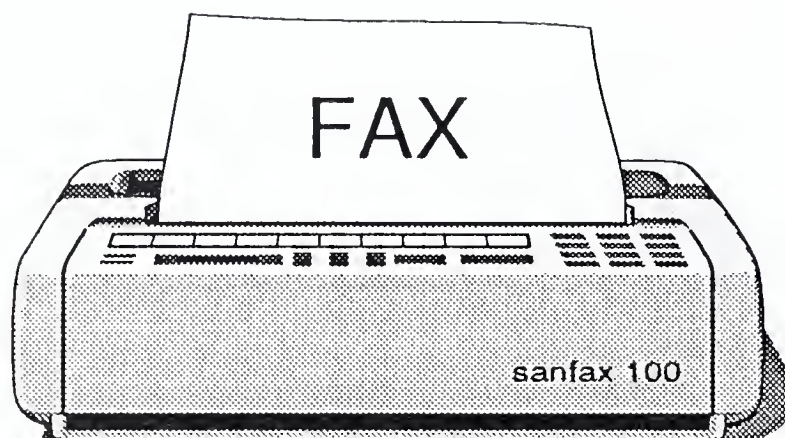
- New releases of industry standard software, for example Lotus 1-2-3, create problems related to course development. Lack of prior knowledge concerning the final release of software delays the course development process. The challenge is how to pre-empt these delays.

Applied Learning has found that industry recession does cause users to reduce or cancel training budgets. However, the company suggested that some users take a more sensible approach during recessionary periods by taking advantage of the recession to re-skill for the future. Further, Applied Learning believes that recession causes improvements in the focus that users apply to business needs and that this factor can be beneficial in the long term. ■

- Historically the company has sold one-, three- or five-year training contracts. The mechanism is that the customer would purchase a quantity of training units, which differ in size and value depending on the size of the contract. The use of these training units can be

organised to suit the customer's needs during the contract period. An issue related to this business methodology is that when a user organisation decentralises, the original single contact retains the training units available, rather than disperses them, in

News from the USA



The sale of the TRW Customer Services Division to Phoenix Technologies has fallen through. TRW states that the agreement to be acquired has expired and that TRW is not seeking new buyers. The Customer Services Division will remain as part of TRW Information Systems and Services Group.

Snippets

- ❖ Bull has established a sales office in Prague, Czechoslovakia and has plans for a second Czechoslovakian office in Bratislava. The company forecasts the doubling of sales through these offices year-on-year in the short term.
- ❖ Toshiba has announced the opening of a subsidiary company in the Netherlands to market PCs, fax machines and printers.
- ❖ Granada Computer Services (U.K.) has announced the promotion of Jeff Stanton to the position of managing director. The appointment will permit Peter Edwards (managing director of Granada Computer Services Europe) to concentrate on the strategic development of the European business. The company has also announced the winning of a £100,000 contract to maintain the shared computer unit of Avon County Council and Bristol City Council in the U.K.
- ❖ Unisys and KPMG Peat Marwick have reached agreement on a long-term business alliance. The arrangement includes the joint development and marketing of systems software products covering software engineering and 4GL products.

U.S. Snippets

- ❖ AT&T and NCR have created five transition teams to oversee the merger of the two businesses. The team in charge of the service division is the Marketing, Sales, and Hardware and Software Support team. It consists of seven NCR executives and eight AT&T executives. Gary Burnett, VP Customer Services, represents NCR, and Curtis Crawford, VP Sales, Services, and Support, represents AT&T.
- ❖ Diebold has completed the first two of five steps in phasing IBM ATM service clients over to Diebold service. These phases are for customers in the eastern, western, midwestern, southeastern, and central U.S.
- ❖ Bell Atlantic Business Systems Services is offering a free copy of its booklet, "Maintenance Tips for Your Microcomputer." Send a self-addressed, stamped envelope to: PC Maintenance Tips, Suite 1300, 211 E. Ontario St., Chicago, IL 60611.
- ❖ Prime Computer has signed a joint marketing agreement with Software Clearing House Inc. to provide Prime customers with more than 30 software products and support for systems running UNIX.
- ❖ Triticom has signed an agreement with Intellogic Trace (IT) to incorporate its product, WatchIT, into IT's LAN support product, Tech-In-The-Box.
- ❖ NCR has expanded its hot-site disaster recovery facility in its Software Distribution Center. The new hot site is a result of the merger between its Data Services and Customer Services Disaster Recovery Services. The expanded site is expected to accommodate at least 100 potential customers; there are currently 50 clients for disaster recovery services.

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Service Update

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Call CONNECT Unisys Set to Launch Enhanced Network Services

Unisys is set to launch a revised version of CONNECT, its network services. The launch, which will take place through country subsidiary organisations, is scheduled for September 1991 and will be followed by a launch programme to user groups in October 1991.

The original CONNECT programme was announced by Unisys in April 1990 and was

the subject of a detailed profile by INPUT in the June 1990 issue of *Service Update*.

In describing the extent of the new CONNECT programme Unisys quotes:

"The traditional approach to network support is to consider ISLANDS. Unisys CONNECT considers TOTAL ENTITIES".

Unisys further quotes that:

"The objective of CONNECT and the reasoning behind it is to make networking as easy as possible for all types of user".

In the original CONNECT service, Unisys integrated its customer services offerings in an approach that concentrated on physical networks. With the launch of the new CONNECT service, Unisys is integrating all its service operations into a total cohesive approach to networking, addressing both the physical and logical aspects.

Continued on next page

Unisys...from page 1

"CONNECT Considers Networks as Total Entities—Not as Islands".

The new CONNECT service ranges from conceptual phase through full implementation. The changes made to CONNECT reflect a much wider service offering achieved by integrating the services of Unisys' Professional Services Division and its Customer Services Organisation—and using this to provide a bridge

cycle and that it is necessary to understand where the network is in this life cycle. Unisys now claims that CONNECT is structured to meet network life cycle requirements. For example, the services oriented towards network life cycle, as defined by Unisys, are illustrated in Exhibit A.

Exhibit A

Network Life Cycle

- Planning, design and development
- Installation
- Commissioning, certification and implementation
- Provision of "a la carte" service
- Change management
- Operations management and enhancement

Source: INPUT

between these and other appropriate Unisys organisations.

Further, the new CONNECT service is designed to look at networks from the customer's viewpoint, recognising that networks have a designed life

As a consequence of the new CONNECT service, a customer need no longer be concerned

with the Unisys service infrastructure, and indeed, Unisys claims that the customer need not even know specifically what is required. All the customer needs to do is call CONNECT. With their first call, customers' answers to key questions provide guidance about their requirements. From this point, an appropriate resource can be identified to explore and address the customers' requirements further.

CONNECT is a central point that filters calls; it takes ownership of the customer.

Unisys is keen to point out that CONNECT addresses multivendor issues and needs, and end users' needs that are related to networking. Further, CONNECT can provide a general-purpose and repeatable packaged solution, or tailored customer-specific solutions. Included in the service offered are those features shown in Exhibit B.

CONNECT—Strategic Direction

Unisys claims that the strategic directions that led to the revised CONNECT services, and the basis on which the services were developed, resulted from research of user needs for networking and the difficulties that can arise from implementation.

"Call CONNECT —Unisys' Total Solution to User Networking"

Exhibit B

CONNECT—The Main Features

- Equipment
- Software
 - Systems software
 - Applications
 - Customer-specific applications
- Power systems
- Structured wiring
- Ergonomics

Source: INPUT

Unisys' research indicates that user implementation of networks is an increasing trend. For example, the number of networks installed worldwide has doubled in the last two years, and this trend is set to continue. The research also indicates that users are experiencing a growing number of problems in developing efficient networks.

Users are keen to acknowledge the need for networks, and they are keen to improve and extend them. However, the complexity of the technology involved and the difficulties experienced by users—in what is a highly multivendor-oriented environment—are inhibiting the process.

It is against this background that the strategies for CONNECT have been developed. Exhibit C highlights the key elements of Unisys' CONNECT strategies.

In developing CONNECT, Unisys reasoned that from the user's point of view:

- There is a problem with finding and integrating technologies from a wide range of different vendors. Each vendor may be a specialist in its own field, but who will take responsibility for ensuring that all the various technologies will work together? Further, if faults or problems occur in a network, which vendor is responsible and who will resolve the problems?

- Many users face problems in enhancing or extending existing networks, and many users simply add to their networks with an unplanned and uncontrolled approach. The invariable upshot of this approach is that the resulting networks are inefficient and inflexible. Such networks can diminish productivity and can place the user's business at risk.

- When network implementation and support remain separate, fragmented services, users may find they are taking responsibility for coordination themselves. Inevitably the user will end up taking responsibility for a highly complex system, and may not have the expertise to fully understand the system for which they are responsible.

INPUT's research, which was published in a report entitled *The Challenge of Network Service in Customer Services* in May 1990, concurs with Unisys' findings. The report concluded that the service and support of networks remains fragmented, with few vendors offering comprehensive approaches to network services, thus leaving users underserved in a vital area of their information systems infrastructure. The report further acknowledged that there was considerable user confusion over network support needs and the likely development of networks.

Continued on next page

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Summary of CONNECT Services

The CONNECT service offering has six distinct but interlinked services. These services are identified in Exhibit A. These services are repositioned in Exhibit D to emphasize the focus on a total network solution.

The six key elements of CONNECT can be summarised under the following headings:

1. Planning, Design and Development

The major elements of this aspect of CONNECT are listed in Exhibit E.

At this phase, Unisys project managers and consultants work with the customer to explore all the options for linking the user's various computer systems together. At the end of this process, Unisys staff will determine the best solution to match the user's business needs—both in terms of supporting current business goals and ensuring that support for future business requirements is taken into account.

During this phase all activities are controlled by a Unisys project manager who remains the single point of contact until the work is completed.

Exhibit C

CONNECT—Strategic Direction

- Integrated total solution to address user networking requirements
 - Networking products and services
 - A la carte services
 - Multivendor services
 - Integration services
 - Project management services
 - Consultancy services
 - Customer education and training
- Provide focus to help implement the Unisys architecture
- Provide networking products and services that address any stage of the network life cycle
- Provide networking products and services that are designed to meet business needs

Source: INPUT

Exhibit D

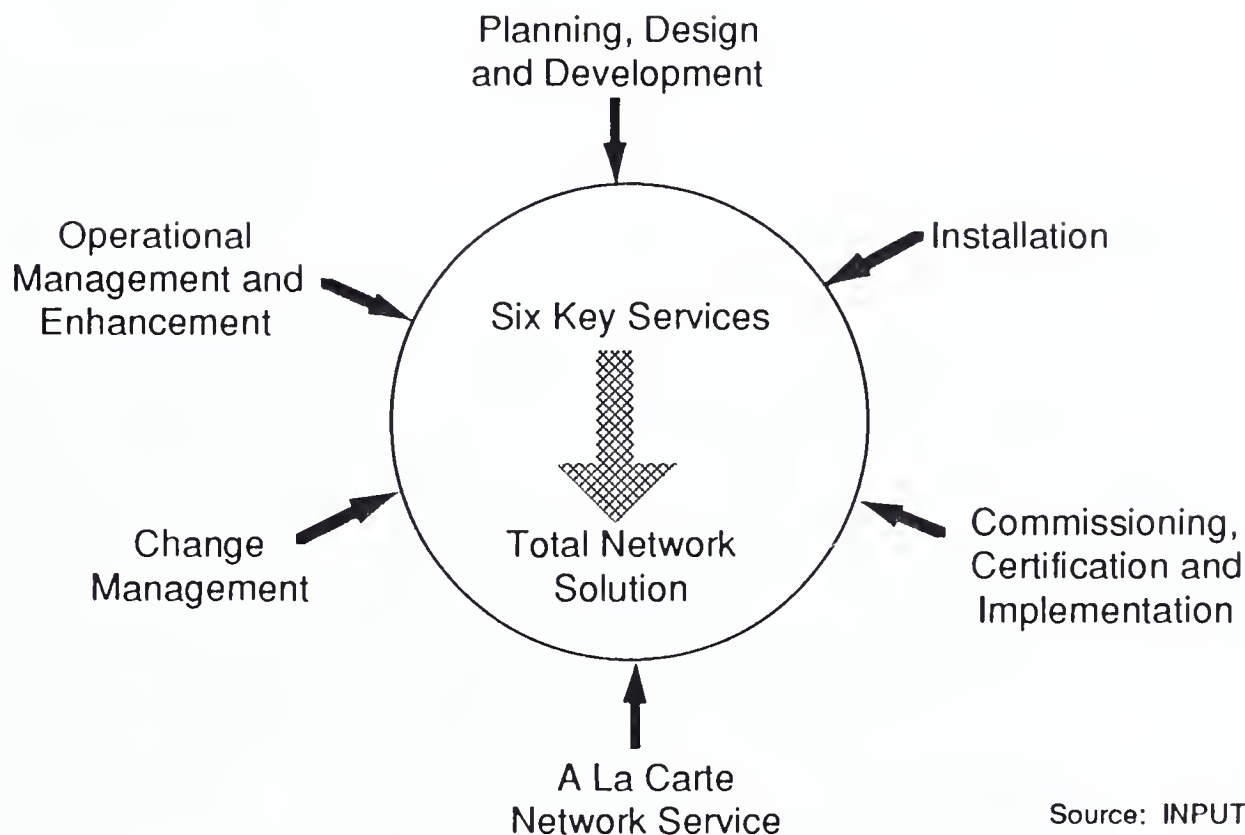
CONNECT Focuses on Total Solution

Exhibit E

CONNECT—Planning, Design and Development Services

- Analysing business requirements
- Evaluating the structure and locations of premises
- Determining the optimum topology and network products
- Developing applications software products, customised protocols and systems integration
- Designing in flexibility and adherence to standards
- Preparing the complete networking blueprint

Source: INPUT

2. Installation

Exhibit F provides a list of the elements of CONNECT that comprise the installation phase.

Unisys provides complete project management on site at every stage of installation.

The objective of the installation phase is to ensure that correct methods are used for installing structured wiring—taking into account the structure of the user's buildings—and often involves multiple sites in cases where a wide-area network is being installed. Other areas of concern at this stage are to ensure that installation is correctly monitored for

Continued on next page

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Exhibit F

CONNECT—Installation Services

- An integrated approach to installing all the components of the network
- Project management
- Development of co-ordinated installation plan
- Provision of optimum network products
- Integration of all components
- One-stop shop total installation turnkey service

Source: INPUT

All potential problem areas are covered, ranging from interfacing with PTTs to joining with an existing network.

Should faults occur during this phase of the project, immediate access to advanced diagnostic equipment helps in the speedy resolution of problems.

The implementation service takes a strategic management approach to this phase of the project. Phase one addresses pre-implementation tasks such as delivery and training schedules. Phase two incorporates all aspects of the delivery, such as "cold" or "hot" staging. Phase three is a post-implementation review that focuses on new or outstanding issues.

environmental protection and cosmetic acceptability.

During this phase of the project, the Unisys project manager is the central point of contact and has responsibility for all aspects of Unisys commitments. This responsibility includes completing the work within budget and on time, and controlling execution of the plan whether it is done by Unisys staff or by specialist contractors.

3. Commissioning, Certification and Implementation

The elements of CONNECT that comprise this phase of the project are identified in Exhibit G.

Objectives for the network commissioning and certification phase are to ensure complete management control at each

Exhibit G

CONNECT—Commissioning, Certification and Implementation Services

- Integrated with installation services or standalone
- Evaluation of all network components
- Ensuring physical and logical connectivity
- Ensuring network hardware and software operability
- Realising the complete networking blueprint
- Guarantying immediate beneficial use

Source: INPUT

step of the project while installation is being carried out and also to methodically check, monitor and test every connection point in the network.

4. A La Carte Network Service

A La Carte Network Service was developed by Unisys to allow users a choice in the type of support they require for their networks. It offers a complete menu of network services; the user has simply to choose which is appropriate to suit business needs. The objective is to provide the user with comprehensive service and support. The main features of A La Carte Network Service are highlighted in Exhibit H.

Through this service, the user gets a single contract to cover all network service and support. This total solution provides the user with everything from diagnostics and fault management to software maintenance. The key is the provision of immediate attention when needed.

5. Change Management Services

Exhibit I highlights the major elements that comprise the

CONNECT Change Management Services.

The objective of this service is to allow the user to implement

Exhibit I

CONNECT—Change Management Services

- Physical and logical management of changes in equipment and network configuration
- Project management
- Auditing and reviewing of network cabling methods
- Developing and introducing open cabling systems
- Recommending methods and systems to minimise the adverse effects of change
- Managing change to ensure networks always match business needs

Source: INPUT

Exhibit H

CONNECT—A La Carte Network Service

- The user chooses the support that best suits its business
- Provides expert support focussed on the whole network
- Includes multivendor support capabilities
- Delivers highly flexible, multilevel services
- One single contract for the whole network

Source: INPUT

changes to the network as the needs of the user's business change—for example, as a result of re-organisation, mergers and acquisitions, changes in business practice, or changes that involve office re-arrangement.

This service also allows users to take advantage of new technology as it becomes available, which ensures that their business operations remain fully efficient.

However, the key focus of Unisys' Change Management Services is "controlled change". This approach opposes the

Continued on next page

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uncontrolled proliferation of cabling and equipment, which is often the result of hastily implemented additions, extensions and enhancements to networks. Controlled change is the key to maintaining efficiency and productivity levels within the user's business operations.

6. Operational Management and Enhancement

The major elements of CONNECT Operational Management and Enhancement services are listed in Exhibit J.

This service aims to ensure that the user has the opportunity to progressively enhance the network to achieve the best business efficiency possible.

Unisys reasons that ignoring a network until a change in working practices forces a change in the network is an inefficient approach that may cause the user to miss valuable

opportunities for improved performance, efficiency and improved cost effectiveness of the network.

The service includes network audits aimed at allowing the user better control of identifying redundant parts of the network and checking uncontrolled proliferation or duplicated resources. Also included are the

"CONNECT— A 'Drive Away' Network Solution"

Exhibit J

CONNECT—Operational Management and Enhancement Services

- Auditing and reviewing the efficiency of networks
- Developing solutions to improve cost/performance ratios
- Introducing the benefits of advancing technology
- Delivering packaged services for network implementation
- Monitoring and maintaining compatibility of software revision levels
- Reviewing the security of networks

Source: INPUT

monitoring and maintenance of the compatibility of software revisions and reviews related to the security of networks.

In conclusion, the relaunched CONNECT service could be described as a "drive away" solution to user's networking needs. ■

EuroPACE—An Innovative Training Operation in Europe

EuroPACE is a unique organisation, and is believed to be the only organisation in its market niche in Europe that uses satellite communications as a delivery mode for education and training.

EuroPACE recognises that its aims are ambitious, but also believes that they are realistic. The following statement reflects EuroPACE goals:

"To help European industry in its urgent need to stay competitive by providing the most up-to-date knowledge relevant for research, development, manufacturing and management using advanced information and communication technologies."

The success of EuroPACE is such that the organisation is currently delivering about 350 hours of new training material per year via the satellite link. In judging this success, it is necessary to take into account that EuroPACE is primarily a wholesaler, not a retailer; subscribers receiving the material record it and then disseminate it within their own organisations. Therefore, the actual quantity of training delivered to participants is

many times larger than the initial quantity transmitted by the EuroPACE organisation. The common language is English.

EuroPACE is a venture set up in 1988 by a number of leading international companies that are sponsors of the organisation. These sponsors are listed in Exhibit K.

These sponsors are continuing to support the development of EuroPACE, and currently about 70 organisations across Europe regularly receive and record broadcasts. However, as EuroPACE points out, many of the receiving organisations are consortia; therefore, the total number of receiving organisations is much higher.

EuroPACE headquarters is located in Paris, and the organisation is registered as a French "Association" that members have to join. The

organisation is not intended as a profit-making entity. The Chairman of EuroPACE is M. Hubert Curien, the French Minister of Research and Technology and Professor, University Paris VI.

There are four categories of membership of EuroPACE:

- The first two categories cover small business and academic organisations, for which the current membership fee starts at 11,000 ECUs per year (about \$15,000).
- Active members, for which the current membership fee starts at 38,500 ECUs per year (about \$53,000). Active membership is for companies or consortia that wish to be involved in the future planning of EuroPACE,

Exhibit K

EuroPACE Sponsors

- British Telecom
- Bull
- DEUS
- Digital
- Fundesco - Telefonica
- Fundetec
- Hewlett-Packard
- IBM
- IRI
- NORIT
- Philips
- Thomson
- CRE
- SEFI

Source: INPUT

Continued on next page

EuroPACE...from page 9

and includes rights to attend all programme advisory groups.

- Full sponsors pay for membership in EuroPACE for a five-year period, which for the initial group ends at the end of 1992. All sponsors of the EuroPACE organisation are board members, and new sponsors are permitted to join. They initially paid 180,000 ECUs per year (about \$245,000) to set up the EuroPACE organisation. However, the annual sponsorship fee has now been reduced to 120,000 ECUs (about \$165,000).

EuroPACE defines its target market as the continuing education sector, which is divided into the following subsectors:

- Early employment
- Settling down
- Mid-life
- Late employment

EuroPACE has targeted the early employment group on the basis that this group is the most highly motivated, and in terms of high technology topics, is the group most in need of continuous updating. For this group, it is assumed that companies will pay for the access to EuroPACE material.

EuroPACE further reasons that for each subsector there are four motivational forces on which the learning process is dependent:

- Access
- Process

- Price
- Culture

EuroPACE sees the medium of satellite-based communications as a delivery mode for video training that attacks two of the four motivational forces—access and price. EuroPACE aims to lower the price of training. Although the company initially targeted the early employment group, on the basis that it was the group most motivated to learn, it is now seeking ways of accessing other sectors, in particular management.

EuroPACE research has indicated that the lowest level of motivation exists within the mid-life group. If this sector of the market is to be successfully accessed, the company culture needs to be right in order to create the right level of encouragement, both within the company organisation and within the individual.

The position that EuroPACE has taken on pricing is that it should be based on production cost. Production costs are relatively low, about 5,000 ECUs per hour (about \$6,900); therefore, the potential cost to users is also relatively low, providing that sufficient users subscribe. A further point made by EuroPACE is that the use of satellite communications as a delivery mode is very efficient. Using satellites, the staff head count is about 15. About 60 staff would be needed to package material for daily delivery using more conventional means, such as mail or courier delivery, and this number would increase as more receive sites were installed.

EuroPACE considers its business as "self service" learning, more selling a licence than selling a product. Subscribing members and sponsors who receive the material have the right to record and edit the material received for distribution in their own organisations. No limits are placed on this distribution provided it is within the defined organisation of member companies. Rights for resale of material can be negotiated with EuroPACE if desired.

Broadcasts are currently made via a Eutelsat 1 satellite which, although relatively low powered, provides good coverage throughout Europe. Most receiving sites can be served by a 1.8 meter motorised dish that costs between \$1,900 and \$3,800.

EuroPACE offered the following comments about the issues surrounding its service:

- The use of satellites aids the efficiency of delivery, and EuroPACE is a vehicle delivering expertise, whose price does not depend on the number of students.
- Production methodology is a key issue. People misunderstand technology and its driving forces. Training is important—technology is less so.
- The "warm body" approach to training is less interactive than many people believe. Interactivity as a critical component of training can be a misnomer.

- Training and its benefits needs to be marketed and sold. Additionally, major cultural changes are required to break down the barriers to extend training across a wide spectrum.
- From the point of view of EuroPACE, there is a need to find both well known and unknown experts to support its programme.
- Mass market training at low cost is an opportunity for EuroPACE.
- With regard to culture, it is very important that people are encouraged to learn, or that incentives are provided. Many companies do not yet have the right culture.

Currently the scope of material offered by EuroPACE extends beyond INPUT's definition of information services training. Those courses offered that do fall within the scope of this definition relate to the key topics listed in Exhibit L:

Examples of courses provided that relate to information services, to be broadcast in the year beginning September 1991, are:

- Case-based Reasoning (6 hrs.)
- Software Quality, Metrics and Testing (7 hrs.)
- Safety-Critical Control Systems (12 hrs.)
- Next-Generation Data Base Systems (10 hrs.)

Exhibit L

EuroPACE Key Topic Areas

- Advanced manufacturing techniques
- Expert systems and artificial intelligence
- Micro electronics
- Software engineering
- Telecommunications
- Technology management
- Information systems management

Source: INPUT

- Video Communications; Coding Compression and Transmission (21 hrs.)
- OSI Conformance Testing (10 hrs.)
- Innovation Management (10 hrs.)

There are a number of factors that differentiate the activities of EuroPACE from those of other companies that are delivering videotape-related training products; these factors include the following:

- Material is broadcast once only.
- Subject material tends to be related to leading-edge technologies.
- EuroPACE conducts about 12 live broadcasts each year on "hot" topics, such as expert systems, EDI and quality.

- EuroPACE encourages a diverse use of the material broadcast—i.e., copying, editing, etc.—to match client educational culture.
- EuroPACE commissions education and reportage and then broadcasts the material, for example the recent Super-Computer Conference.

The company uses satellites for delivery of television programmes; surface mail for delivery of printed documents; and computer conferencing, telephones and faxes for communication and feedback.

For further information on EuroPACE, please send a fax to the following:

Mr. Neil Spoonley
EuroPACE
CNIT
La Defense
92054 Paris, France
Fax (33) 1 47 76 42 72 ■

ICL and Bell Atlantic Form Joint Venture

The current round of expansionism at ICL continues. Following shortly after the announcement that ICL was to acquire Nokia Data came a new announcement that ICL and Bell Atlantic Business Systems Inc. of the U.S. are to form a joint venture.

The stated purpose of the joint venture is to provide total managed services in Western Europe. Total managed services is claimed to represent a wide range of customer services, required by large corporations, that go beyond just the hardware maintenance services traditionally supplied by independent maintenance companies.

The new joint venture company will have its headquarters based in London, U.K.

Bell Atlantic and ICL will each have a half interest in the joint venture company—Bell Atlantic Customer Services International, and in its operating companies. The operating companies are:

Sorbus U.K. Ltd.
Bell Atlantic Services clients
Sorbus Germany
Eurotech Italia

These companies currently provide computer maintenance services in the United Kingdom, France, Germany, Switzerland, Austria and Italy.

The new company will offer a wide range of services for

mainframe, midrange and networked personal computer systems from a range of suppliers, including IBM and Digital. Servicing of ICL computer systems will remain the responsibility of ICL.

Mr. Tom Vassiliades, President and CEO of Bell Atlantic Business Systems Inc., will serve as Chairman of the joint venture. In explaining the choice of ICL as a partner, Mr. Vassiliades said:

"ICL is unquestionably a successful computer systems supplier with a well-established base, a well-developed infrastructure and a fine reputation. This partnership is an ideal opportunity not only to support our business growth plans but, more importantly, to provide our customers with a varied and rich portfolio of services to meet all their business needs".

On behalf of ICL, Mr. John Proctor, ICL's Director of Services commented:

"This new venture represents another step in ICL's strategy for expansion in Europe and emphasises the increasing importance of high-quality maintenance and support services in the information technology market.

The combination of ICL's widespread and growing European infrastructure and service skills, and Bell Atlantic's

strong capabilities and state-of-the-art service technologies for non-ICL equipment, results in a partnership ideally positioned to bring the highest standard of service to organisations throughout Western Europe". ■

NCR-AT&T Merger

NCR and AT&T have moved closer to their merger with the joint filing with the Securities and Exchange Commission for the issuance of AT&T common stock in connection with the merger and public offering of 6.3 million shares of NCR common stock. NCR's proxy statement relating to shareholder approval was also filed with the SEC.

The NCR shares sold under the stock offering will be automatically converted to AT&T common shares as a consequence of the merger. The exchange ratio will be based on the average closing price of AT&T stock during the 20 consecutive trading days ending on the fifth day prior to the special meeting of NCR shareholders.

Morgan Stanley & Co.; Dillon, Read & Co., Inc.; and Goldman Sachs & Co. have been named co-managers of the U.S. and Canadian portions of the offering. The international portion of the offering will be managed by Morgan Stanley International; Dillon, Read Securities Limited; and Goldman Sachs Limited. ■

News from the U.S.

Novadyne Computer Systems, Inc.

Novadyne Computer Systems, Inc. was formed from a management buyout of the McDonnell Douglas Field Service Company in June, 1990. Novadyne provides third- and fourth-party hardware maintenance services, software support and network services to information systems end users, OEMs and resellers. The company also markets and services a full line of information processing systems in the PICK® and UNIX® marketplaces through a national network of distributors and value-added resellers.

During its first year of operation, Novadyne has retired 11% of its buyout debt, acquired the service operations of Distributed Logic Corporation of Anaheim, CA, and begun construction on a new headquarters in Santa Ana, CA. Total revenues are expected to be over \$104 million this year.

The Power of Many Combined as One

Novadyne comprises the joint capabilities of the former Microdata, McAuto and Tymshare field service organisations, as well as the firms that Novadyne has acquired since the merger of these organisations. Their charter is to provide flexibility in designing quality service

programs to meet customers' service requirements, and in essence, become a business partner with customers.

Client Base

Services are marketed nationwide to companies across all industries, including retail, transportation, distribution, communications, health care, educational organisations, federal government, and state and local government agencies. Major clients include American Express, McDonnell Douglas Systems Integration and emergency 911 applications across the country.

Products and Services

Service offerings include a wide variety of computer systems, graphic workstations, and communications hardware from over 100 manufacturers. Major manufacturers covered include DEC, Tandem, IBM, Sun Microsystems, Fujitsu, Cipher, Printronix, Emulex, and Control Data.

Levels of service options are:

- Basic coverage provides normal, on-site response during the principal period of maintenance (PPM) on a best-effort basis.
- Basic Plus Coverage provides a guaranteed four-hour, on-

site response and a two-hour grace period after the PPM, at no additional cost to the customer.

- Critical Coverage provides a guaranteed four-hour, on-site response and continuous work-through until the problem is solved, at no additional expense to the customer.

Novadyne's Central Dispatch system enables them to respond to a customer's initial service call 24 hours a day. The two major features of the Central Dispatch system are the automatic call handling and call escalation programs, which are designed to effectively track all calls through closeout.

- The Central Dispatch system routinely schedules preventive maintenance, opening a service call and paging an engineer to the site when preventive maintenance is due.
- Predictive maintenance is also scheduled and, if authorised by the customer, Novadyne's system will dial into the system, run diagnostic routines and make appropriate recommendations.

Novadyne's logistic centres operate 24 hours a day to ensure that critical service needs are met.

Novadyne also offers a Tandem disaster recovery program on numerous equipment configurations, with tape storage facilities on its premises

Continued on next page

Novadyne...from page 13

for the customer's SYSGEN. Using the Central Dispatch capabilities, Novadyne guarantees four-hour configuration response. As part of the program, customers receive 32 hours of Disaster Recovery Emulation on-site at the Novadyne Dallas Recovery site, and a data entry centre and remote terminal system support through the Recovery site.

Under the realm of fourth-party maintenance services, Novadyne offers 24-hour spares availability, depot repair, and full-service catalog sales.

- The Remarketing Services Group specialises in the sale and lease of hard-to-find spare parts.
- NOVADIRECT offers full-service catalog sales for

peripherals, supplies, and accessories.

- Depot repair services are offered through three centers located in Dallas, Philadelphia, and Irvine, California. The centers offer more than 60 state-of-the-art fault isolation systems and a Class 100A cleanroom with servo writers for sealed module disk assembly. ■

News from the U.S.

Enquiry Service

Ques: What maintenance support is available for ARCHIVE tape drive 2525ES and Syquest's removable cartridge SQ5110? Are on-site or depot services available?

Ans: Sysquest just started shipping the SQ5110 in February, 1991. Therefore, the units that are out in the market now are still under manufacturer's warranty. Sysquest expects that they will have a flat rate maintenance plan ready before the first units

come off from warranty. All maintenance/replacement will be handled through the distributors.

All of the maintenance for the ARCHIVE tape drives is handled through Maynard Electronics, a division of ARCHIVE. The units may be repaired on a flat rate basis, exchanged for another "like" unit, or exchanged for a different model at varying fees. ■

Snippets

❖ Alliances Enhance Single-Point-of-Contact Service

- Bell Atlantic Business Systems Service in the USA has announced the signing of two new alliances to enhance its ability to provide single-point-of-contract service to customers. The agreements with NCR of Dayton, OH, and Amdahl of Sunnyvale, CA, will offer BABSS the opportunities to expand into new marketplaces.

- UNIX hotline telephone support in the USA has moved into the 900 number pay-per-call market. Service bureau Interactive Communications offers a hotline staffed by reseller, Todays Computers Business Centers, answering calls on UNIX and DOS technical issues. The service maintains a profile of the user's configuration so that frequent callers can jump to the point of the call, eliminating the preliminary questions.

Snippets

- ❖ Thorn EMI Software, one of the U.K.'s largest computer services companies, has been bought out by its own staff and management in an £82 million (about \$160 million) buyout. The buyout was led by the existing chairman and CEO, Mr. Mike Smith.
 - The company was renamed Data Sciences on August 1st. Thorn EMI will retain a 20% shareholding in the new company.
 - In 1990, as Thorn EMI Software, the company had a turnover of £117 million (about \$225 million) and generated pre-tax profits of £6.2 million (about \$12 million)
 - Data Sciences employs 1,950 staff across 14 sites, including operations in Germany and the Netherlands.
- ❖ Granada Computer Services has been in the news recently in the U.K. and has made the following announcements:
 - On 20th June, Granada announced that it had been awarded a maintenance contract by V.A.G. (U.K.) Ltd. (Volkswagen/Audi). The contract covers a period of three years, is claimed to be worth £350,000 (about \$680,000) and includes maintenance of an IBM 3090 mainframe, IBM S36, PCs and Xerox laser printers.
 - On 1st July, Granada announced that the Avon County Council and Bristol City Council had awarded it with a single-source maintenance contract valued at £100,000 (about \$195,000). The contract covers maintenance of an IBM mainframe and multivendor peripherals at both central and distributed computer sites. One advantage of awarding the contract to Granada was claimed to be the elimination of demarcation disputes in a multivendor environment.
 - On 4th July, Granada announced the appointment of Mr. Jeff Stanton as the new Managing Director of the U.K. operations. Mr. Stanton will report to Mr. Peter Edwards, MD of Granada Computer Services Europe. Previous to this appointment, Mr. Stanton had been deputy MD of Granada Computing Services Europe.
 - On 19th July, Granada announced the appointment of Mr. Joe Connolly as Regional Sales Manager for the Midlands region in the U.K.
 - At Procurement '91 in the U.K. (11th-13th September) Granada will be explaining the benefits of independent computer maintenance to computer users in the U.K. public sector.
 - On 1st August, Granada announced that it had been selected by Northern Electric in the U.K. to maintain vital computer equipment used for internal operations. The contract is claimed to be worth over £125,000 (about \$240,000) per annum, covers four regional offices and 19 depots, and guarantees a four-hour fix time on PC file servers.
- ❖ Digital Equipment Hong Kong has been awarded a contract to maintain Cathay Pacific Airways' reservation terminals and associated equipment. The two-year, worldwide contract is worth over \$3 million and covers about 4,700 pieces of equipment installed in 56 countries—equipment mostly supplied by L.M. Ericsson.

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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Service Update

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IBM Links Achievement of Corporate Goals to Customer Satisfaction

Part 1 of a Major Review of IBM UK Customer Service

Some time ago the chairman of IBM, Mr. John Akers, stated publicly that it was IBM's corporate goal to become a services company and that by the mid 1990s IBM would achieve 50% of revenues from services.

This profile highlights:

1. How IBM UK has set about implementing a strategy with a plan to achieve service excellence through commitment to customer satisfaction as a key element

2. That customer satisfaction rates the highest priority in IBM and is seen as a route to successful financial performance
3. How IBM UK has related customer services incentives to measurable achievement of customer satisfaction goals

The profile relates specifically to IBM UK; all IBM country subsidiary organisations retain a high degree of autonomy. However, other country organisations can follow a

similar basic concept/approach to that developed by IBM UK.

In pursuance of the IBM corporate goal, IBM UK Customer Service has implemented a plan that focuses very clearly on achievement of results through measurable performance. Exhibit A illustrates how IBM UK has matched its implementation plan to the corporate culture on which achievement of the key goal to become a services organisation is based.

Continued on next page

IBM...from page 1

"Customer Satisfaction Is Key to Financial Performance"

In order to understand more fully the "raison d'être" of IBM UK Customer Service in interpreting the requirements of IBM's corporate goal it is necessary to take each of the three elements illustrated in Exhibit A and explain them in detail. These three elements are:

The Goal Defined

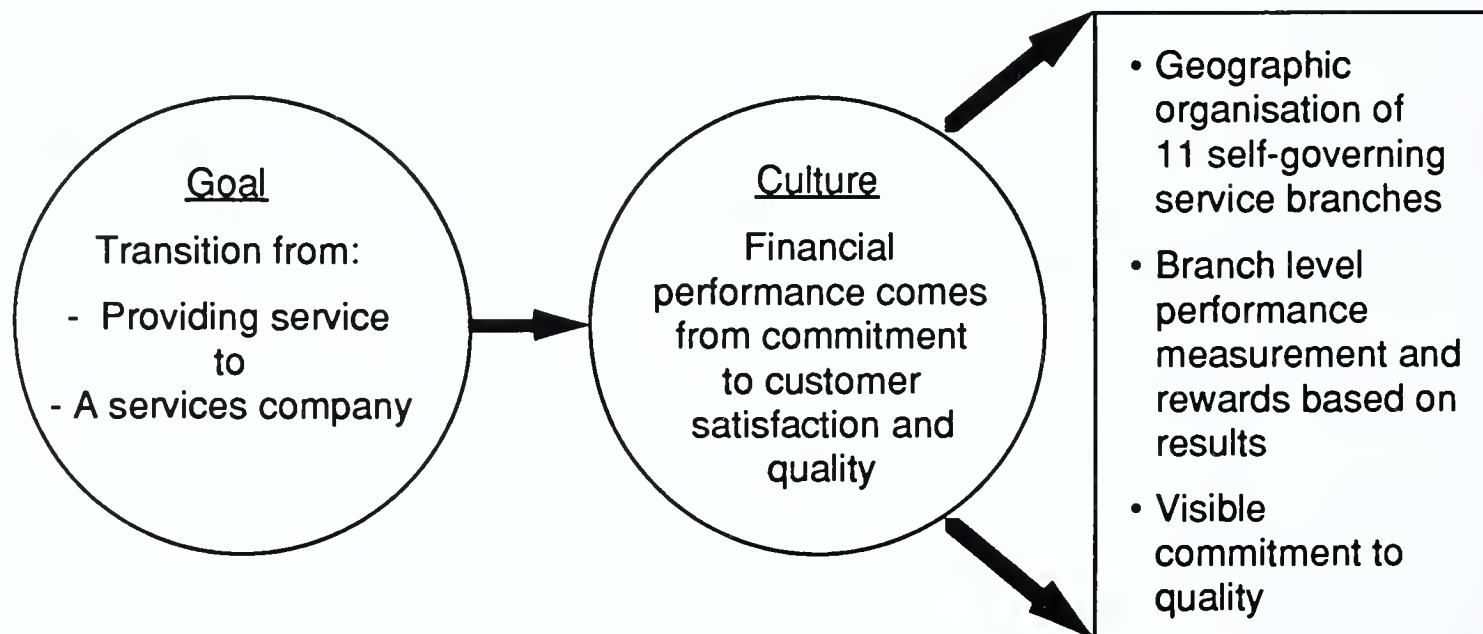
Some time ago, in 1987 to be precise, IBM UK Customer Engineering commenced implementation of a key strategy aimed towards the development of a revenue stream that would be comprised

While progressing along this chosen path the name Customer Engineering has disappeared to become Customer Service.

While IBM will not release precise data to indicate exactly the degree of achievement in meeting the revenue target, it claims to be well on course at this point in time. INPUT's estimate is that currently (1991) the revenue split is about 80% service - 20% services, at worst. INPUT also estimates that other country subsidiaries are proceeding more slowly along this path.

Exhibit A

IBM Key Strategy



Source: INPUT

- The Goal
- The Culture
- The Implementation

of 50% revenue contribution from service and 50% revenue contribution from services. The target date was set for 1995.

The service/services distinction made by IBM requires further explanation and that explanation is provided in detail in part 2 of the profile which

discusses the range of services available from IBM UK. However, the distinction is much more complex than just a range of service offerings and a change of name. Further clarification can be provided as follows:

- The worldwide IBM Corporation Annual Report contains, within the financial results, a line item headed "maintenance" which typically accounts for about 14% of total revenues.

performance results primarily from customer satisfaction and quality. Other factors rank lower in IBM's list of priorities. Exhibit B provides an indication of how IBM grades its worldwide business and the ranking that each item holds in the cultural hierarchy. The key factor highlighted by Exhibit B is that user satisfaction rates number one priority and that market share and financial performance take up the position of follower rather than leader.

- In the first instance if *customer satisfaction* is not achieved, and progressively improved, customers will find alternative suppliers, and quickly. In IBM terms, customer satisfaction is defined as the difference between expectation and experience. Throughout the year IBM anonymously surveys customers worldwide to assess how customers feel about the support, value and solutions they receive from all their computer suppliers. By undertaking this activity IBM claims that it learns about customer loyalty and whether or not customers feel they have a partnership with their suppliers. To achieve this understanding IBM, for example, surveyed 70,000 customers in 38 countries in 1990.

"Maintenance = Maintaining the Customer in Business"

- Maintenance as defined by IBM means "maintaining the customer's system availability" or "maintaining the customer in business". Therefore, maintenance in IBM terms will include traditional equipment maintenance and a range of non-maintenance "services".
- Service refers to traditional remedial activities. Services refer to value-added services. Therefore, revenues reported as maintenance by IBM include revenue from value-added services.

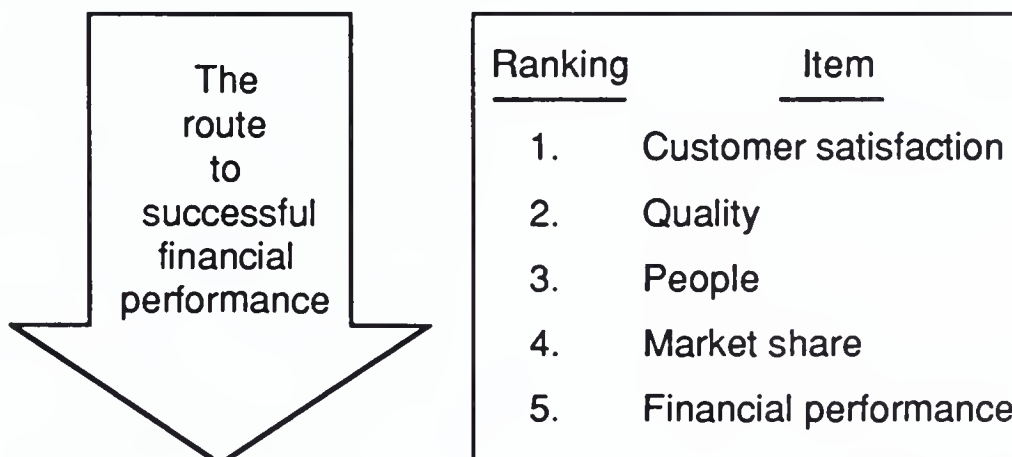
In developing this type of cultural environment IBM reasons that

The Culture

The cultural environment within IBM, in which the goal of becoming a services company is key, is that successful financial

Exhibit B

IBM Business Measurements and Priorities



Source: INPUT

Continued on next page

IBM...from page 3

- *Quality* measures relate to a number of different aspects of IBM's business activities, but the corporation considers that terms such as billing accuracy, first-time fix and marketing/system engineer skill are the top concerns of customers. Other aspects of performance in quality measurements include:
 - On-time delivery—are we meeting commitments to customers?
 - Warranty costs—indicate how well IBM's MDQ (Market-Driven Quality) efforts are working.
 - Education—provides a measure of how many employees worldwide have received basic education in MDQ methods.
 - Systems technology and software quality will soon be added to the list of measures.

Quality assessment is based on a scoring system similar to that used for the U.S. Malcolm Baldrige National Quality award and indicates IBM's progress towards a goal of achieving a perfect score of 1000 points by 1994.

- In an organisation of 370,000 employees, *people* are a key factor and IBM takes the view that the opinions of employees are a key measure of how successful the corporation is in

transforming its organisation from one of being technology driven to one of being market driven. Achievement of this assessment is via employee surveys in which employees are invited to express opinions on:

- How involved they are in market-driven quality?
- How much progress they are making towards the market-driven quality goal?
- Gauging perception of management support and how well IBM's goals for market-driven quality have been communicated to employees
- *Market share* and growth are used as measures of IBM's success in primary product and service categories and can be segmented by country/geographic area or by customer grouping. The objective of including this item on the list of IBM business measures is to enable executives to tell at a glance how IBM is performing compared to the market overall.
- *Financial performance* indicates how healthy the corporation is in financial terms and includes information on historical performance and future prospects.

A more detailed example of what is known as the "corporate score card" is shown in Exhibit C. These documents are updated monthly.

Strategy Implementation

As stated earlier in this profile, the IBM UK strategy for achieving customer satisfaction is focused on three key areas:

- Organisation
- Results orientation
- Quality commitment

The implementation of this strategy as discussed in this profile deals primarily with the Customer Service organisation, but by implication should also concern the overall organisation of IBM in the United Kingdom. An outline of the IBM UK organisation is provided in Exhibit D. This exhibit highlights that the overall marketing operations of IBM UK divide into four segments that are comprised of three industry sectors and one geographic sector. Briefly:

- The Commercial Sector is divided into eight geographic areas covering the whole of the U.K. and also includes the AIX and ABS business units.
- The Industrial Sector covers the manufacturing sector, including, for example, the automotive, steel, oil and pharmaceutical industries. Also included in this sector is the Printing Business Unit.
- The Banking, Financial Services and Retail Sector includes areas such as Central Banking, City of London, Insurance and Financial Services and the Image Solutions Centre.

Exhibit C

IBM Business Measurements

Customer Satisfaction	1990	1991 Status	1991 Plan	Objective	Best Competitor
Overall Satisfaction	-	-	-	-	-
Partnership	-	-	-	-	-

Quality	Defect Elimination			
Education -	Warranty Cost -	Billing Accuracy -	Mktg/SE Skill -	
Assessment -	On-Time Delivery -	First-Time Fix -		

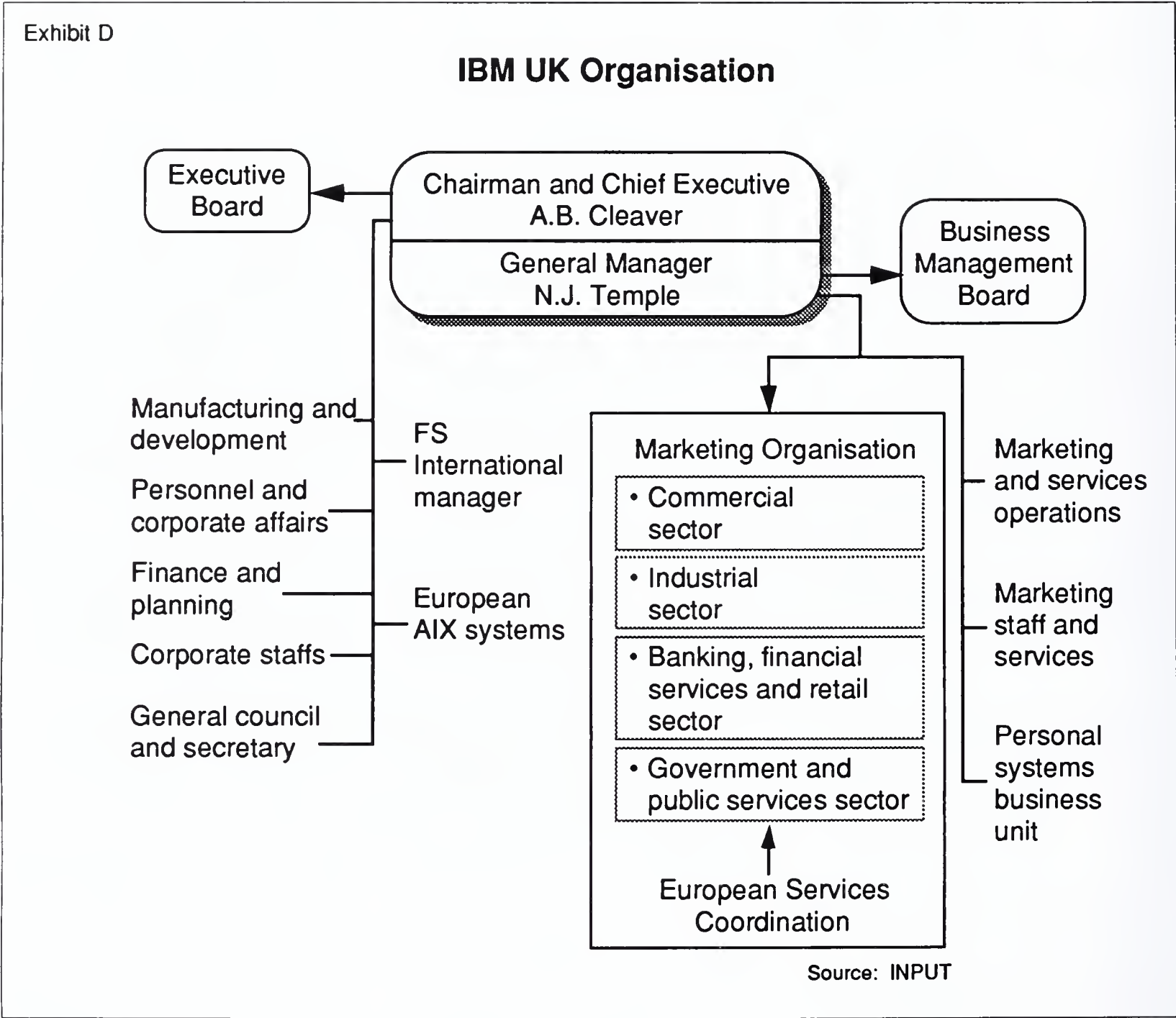
People	1990 Managers	1990 Non Managers	1991 Status Managers	1991 Status Non Managers
Market-Driven Quality Index	-	-	-	-
Participation Index	-	-	-	-

Market Share	IBM/Industry Revenue Growth			
Y/E 1990	YTD	Plan	Outlook	Long-Range
-	-	-	-	-

Financial Performance	Year-to-Date			Current Year		Steady State Objective
	Actual	vs. Last Year	vs. Plan	Plan	Outlook	
IBM Revenue	-	-	-	-	-	-
Gross Profit Margin	-	-	-	-	-	-
Opex	-	-	-	-	-	-
Debt Margin	-	-	-	-	-	-
Capital Expenditures	-	-	-	-	-	-
Total Assets	-	-	-	-	-	-
Return on Assets	-	-	-	-	-	-
Return on Equity	-	-	-	-	-	-
Free Cash Flow	-	-	-	-	-	-

Continued on next page

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- The Government and Public Services Sector includes the airline industry, central government, local government and health. Also included in this sector is the Enterprise Systems Business Unit.

Exhibit D also highlights that the executive management of IBM UK is overseen by two new boards, the Executive Board and the Business Management Board. The appointment of these two boards occurred in April 1991 and replaced the former Management Committee and Services Operations Committee. The role of the Executive Board is to set company-wide goals consistent with direction from European Executive Management, whereas the role of the Business Management Board is to develop and execute strategies and operating plans concerned with achievement of country-level goals.

At the mid-year Managers' Briefing meeting IBM UK chairman and chief executive, Mr. Tony Cleaver, said:

"Our prime objective now is to improve our customer satisfaction level—and we have restructured the company in an unprecedented way to make this happen"—"The way to increase customer satisfaction is by applying Market-Driven Quality techniques."

As part of recent reorganisations within IBM UK, the Customer Service organisation is now structured as 11 geographic branches that are self-governing. Formerly the organisation was based on regions. Further, each

Customer Service branch is assimilating systems engineering responsibility by implementing a job role referred to as Customer Operational Support Specialist.

However, organisational changes are one matter; more important is that the changes result in measurable performance improvements—from the company's point of view and from that of customers. IBM UK claims that it is achieving these improvements in two ways—through the REFLEX programme and by implementing visible quality.

REFLEX Programme

In January 1991, the Customer Service organisation introduced REFLEX, a customer survey programme that addresses timing and action. The name REFLEX indicates the bounce-back nature of the programme, which for the present applies only to hardware-related calls.

The reasoning of IBM Customer Service behind the introduction of REFLEX is that the existing customer survey, which is still in operation, is not sufficiently proactive or reactive enough for Customer Service. The "normal" IBM customer satisfaction survey is carried out twice per year, using a random selection from the customer base, and covers all aspects of service.

REFLEX is different:

- Interviews are conducted with the true end user.

- Users are interviewed by telephone and interviews are focussed towards customers who placed a call with Customer Service the previous week.
- Each branch conducts 100 customer interviews per month, equating to 1,200 total interviews per month and 14,400 interviews per year.
- The aim of REFLEX is to be proactive and reactive.
- Calls take less than a minute of the customer's time, to minimise disruption to the customer's business.

The REFLEX survey asks just four questions of customers, when interviewed, on the basis that "you have used IBM service":

1. "When you placed your call for service, were you satisfied with the way that it was handled?"
2. "Did the time between your call and the solution to your problem meet your expectations?"
3. "Did our [IBM] service representative perform the work in an efficient manner to your satisfaction?"
4. "Did our [IBM] overall service performance meet, exceed or fall below your expectations?"

Data collected during REFLEX programme surveys is used in

Continued on next page

IBM...from page 7

two ways. Firstly, branch manager performance is measured, year to date, on selected target results. Secondly, statistics collected as a result of the REFLEX programme are used to calculate an incentive element of each Customer Service branch manager's salary. Objectives for the REFLEX programme and the improvements that result from its implementation are that IBM is committed to halve the percentage of dissatisfied users by the end of 1991. The ongoing objective for REFLEX is to reduce the number of dissatisfied users to zero.

The REFLEX survey is conducted by an independent market research organisation and interviewers are briefed to respond to customers who express great dissatisfaction. The interviewer can ask if the customer would like their concerns referred to the appropriate Customer Service branch for immediate attention.

performance matches customer expectation.

The internal impact of REFLEX has also proved to be important. According to IBM, implementation of the programme has led to a high degree of excitement, discussion and anticipation within the internal organisations—raising competitive spirit.

INPUT considers that by implementing the REFLEX programme IBM has significantly raised the level of its commitment to customer satisfaction. Of particular note is firstly the continuous nature of the programme and the way results are updated in almost "real-time". Secondly, and perhaps most importantly, is the way the programme has been developed to provide a results-oriented component that influences incentives at the branch level.

At the start of 1991, when the REFLEX programme was implemented, IBM found that a relatively consistent 93.5% of

success rate meant that each Customer Service branch was still disappointing one customer every hour, 365 days per year.

Being obsessed with quality and defect elimination, IBM now talks in terms of failure rate instead of success rate. It started the year with a 6.5% failure rate, claiming that by August this had been reduced to 2.9% and in September to 2.2%.

The success of REFLEX in terms of reducing failure rates has surpassed IBM's original target of achieving a level of 3% by the end of 1991. Over the same period, January to September 1991, the number of calls referred to the Customer Service branches for immediate attention is claimed to have been reduced by 80%.

Though it claims considerable success in reducing failure rates, IBM does not intend to relax. Its goal is to achieve zero defects; IBM Customer Service claims that REFLEX is the most powerful tool it has to achieve this goal.

INPUT contends that taking into account the sheer size of the IBM customer base it is commendable that an organisation of this size should achieve such a high degree of success in customer satisfaction.

One further aspect of REFLEX is that it provides opportunity for an ongoing dialogue with customers. INPUT contends that regular communication is also a key element of improving customer satisfaction.

"REFLEX — A commitment by IBM to achieve totally satisfied customers."

IBM claims that REFLEX is a clear indication to customers that it wants to offer high-quality service and one objective is to provide a clear signal to customers that IBM really cares about their opinions. Further, by implementing REFLEX, IBM wants to ensure that service

customers were satisfied or delighted with the quality of service received from IBM. By May, 1991 this figure had increased to 95% as a result of the REFLEX programme, a commendable result. However, taking into account the large number of customers, a 95%

Visible Quality

As part of IBM's commitment to customer satisfaction the topic of quality in all aspects of the business rates highly, not just quality but QUALITY. IBM's commitment to quality can be assessed in three parts:

- Implementation of the REFLEX programme
- Introduction of MDQ (Market-Driven Quality)
- Visible and demonstrable proof of that commitment

The successful assessment and registration to BS 5750/ISO 9001 was gained within the British Standards Institute's (BSI) "Corporate Approval" programme and covers all IBM UK's products, goods and services, including the marketing organisation.

IBM is keen to point out that certification by the BSI is not granted just on the basis of an original sample audit, but is part of a continual assessment programme. IBM indicates that in practice the continual assessment programme means that the BSI will assess all IBM

visibility to IBM UK's commitment to quality in every aspect of our businesses."

The announcement also coincided with a visit to the U.K. by IBM Chairman Mr. John Akers, who in commenting on how pleased he was at the achievement said, "It is a continuation of the quality drive we are putting the whole Corporation through."

Range of Services

In part two of this in-depth profile on IBM UK, INPUT will review in detail the range of services provided by the Customer Service organisation.

Part two will be published in the October 1991 issue of Service Update. As a preview of this second part Exhibit E illustrates the approach adopted by IBM.

In describing the model illustrated in Exhibit E, IBM uses the anachronym SPIOME, which can be explained as

S → Strategy
P → Planning
I → Implementation
O → Operation
M → Maintenance
E → Evaluation

IBM has recently brought together all of its Consultancy and Services offerings under a single KNOW-HOW marketing banner. Within the SPIOME business cycle, the IBM Customer Service function offers a wide range of services which primarily address the I, O and M phases.

"IBM UK Achieves Company-Wide BS 5750/ISO 9001 Certification"

IBM's commitment to demonstrable quality is not new. As early as August 1986 the Customer Service Organisation (then Customer Engineering) was awarded national BS 5750/ISO 9001 certification. This was achieved in August 1986 and not "recently" as was reported in the U.K. computer press earlier this year. This award makes IBM one of the very early qualifiers for this certification award.

Of more significance, in May this year IBM UK was awarded company-wide BS 5750/ISO 9001 certification and claims to be the first major company in the U.K. to achieve company-wide recognition at this level.

UK sites at least every two years and with only 48 hours' notice given for a reassessment visit. Maintaining registration is dependent on the outcome of these periodic reassessments by BSI; therefore the standards under which certification was first awarded need to be consistently maintained.

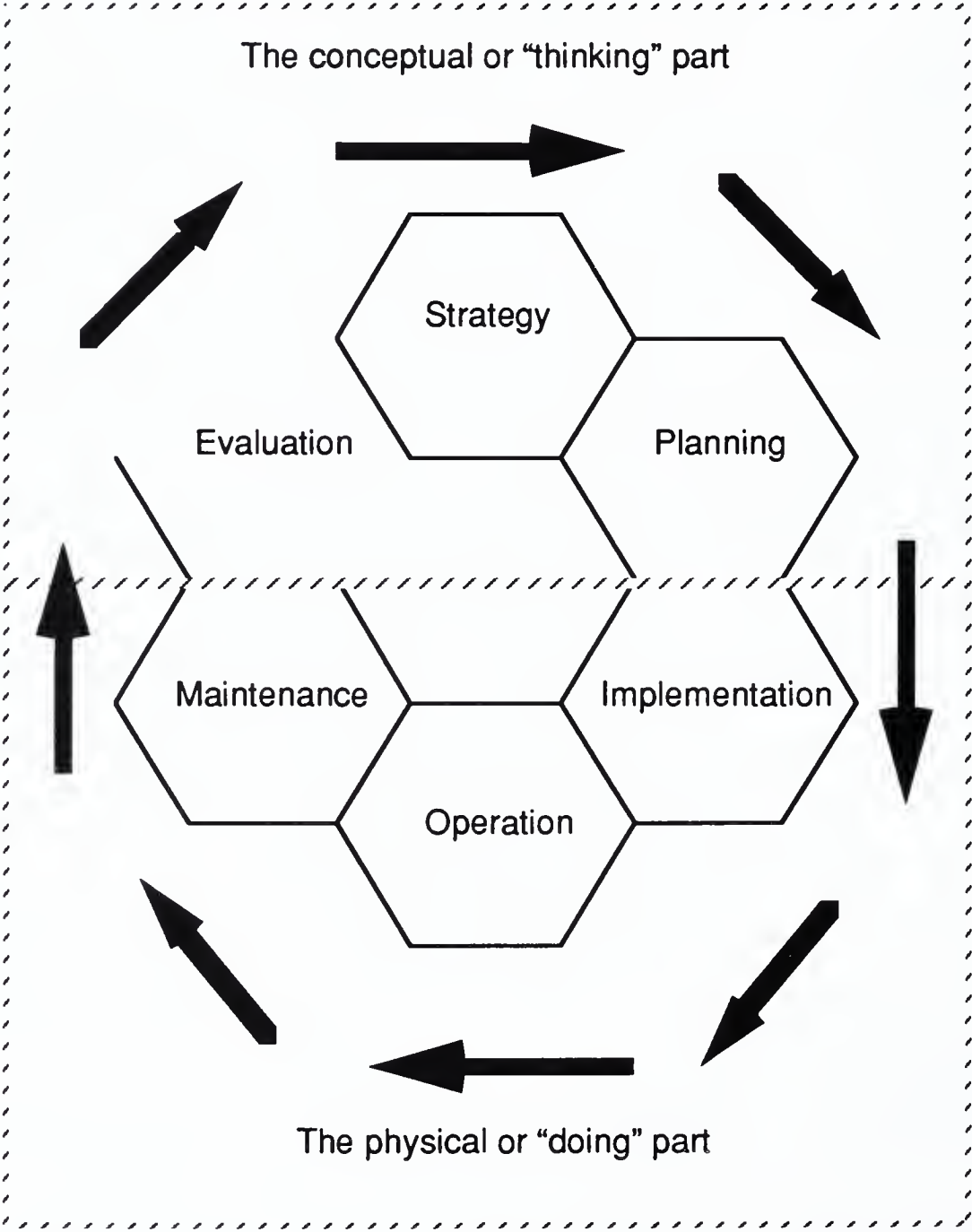
The award of company-wide BS 5750/ISO 9001 was announced by IBM UK Chairman and Chief Executive Mr. Tony Cleaver at a senior management meeting. In commenting on the achievement Mr. Cleaver said: "Achieving the award is a valuable first step on the road to Market-Driven Quality—and of course it is a powerful marketing tool, giving

Continued on next page

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Exhibit E

IBM Advanced Operational Support



Source: INPUT



NCR/AT&T Update

At the end of August, NCR & AT&T announced a change to the original plan of a public offering. The companies have agreed to sell all of the 6.3 million shares of NCR common stock in a direct placement at a price of \$102.75 per share to four clients of The Capital Group, Inc., a Los Angeles investment management organisation. The four companies are Capital Research and Management

Company (manager of The America Funds Group), Capital Guardian Trust Company (manager of institutional accounts), Capital International Ltd. (London), and Capital International S.A. (Geneva).

The NCR stock is being issued to allow AT&T to account for the merger as a pooling of interests. The sale of NCR shares will be completed after

NCR shareholders approve the merger at a meeting scheduled for the beginning of September.

In a later release, NCR and AT&T announced that 2.839 shares of AT&T stock will be exchanged for each share of NCR stock in AT&T's all-stock acquisition of NCR. If the merger is approved by shareholders, AT&T and NCR expect to close the merger the following week. ■

Intellogic Trace

The Company

Intellogic Trace (I T) was formed as a spin-off of Datapoint Corporation's U.S. customer services division in 1985, acquiring the Canadian subsidiary of Datapoint in 1990. I T has an exclusive agreement with Datapoint to maintain Datapoint systems. Therefore, I T has, in effect, been in the business of providing premium computer maintenance services since the late 1960s.

Intellogic Trace, headquartered in San Antonio, Texas, offers customers three basic categories of full-service support: maintenance services for business computing systems; sales and leasing of equipment and industry-specific software; and a wide variety of technical support services. I T offers services throughout the U.S., Canada, and Puerto Rico. The company had total revenues in 1990 of \$153 million, with 200 service locations and 1,500 employees.

Service Offerings

Intellogic Trace is considered to be one of the largest independent maintenance companies in the U.S., providing third- and fourth-party maintenance services. I T is an Authorised Service Provider for many companies, such as Arix, AST, Compaq, Facit, Gestetner, GRiD, Hyundai, Novell, Samsung, Televideo, Toshiba, and Wyse. Services are provided on an on-site maintenance basis as well as

Continued on next page

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Intelogic...from page 11

through carry-in and mail-in centres nationwide. The average turnaround time for equipment serviced through the carry-in centre is from three to five days, with a 90-day warranty on parts included.

In response to customer demands, Intelogic Trace has expanded its on-site maintenance business to include over 5,000 products from over 350 vendors. Equipment maintenance accounts for over 70% of I T's total revenue. I T is attempting to distinguish itself in the service marketplace as a full-service provider, tailoring offerings to the requirements of the client. Flexible service contracts are written with guaranteed response and repair times according to the requirements of the client. Customers can also take advantage of special mail-in service or 24-hour exchange by courier programs according to the criticality of the system. I T also offers high-level technical support capabilities, as shown in Exhibit F.

I T believes that one important criterion of quality is promptness in the delivery of products and services. Recent innovations by I T include the ANSWER inventory distribution system, the "Tech-in-the-Box" electronic tool box, and two-hour response time on failures of network file servers. The Tech-in-the-Box electronic tool kit allows the technician to

trouble-shoot networks using a PC/AT clone with special hardware and software features. The Tech-in-the-Box plays the part of a known good computer, connecting to the failing peripheral or network, isolating failing components without bringing down the network.

centres. Refurbished Wang equipment and compatible peripherals are offered, in conjunction with a co-marketing agreement with EMC for Wang-compatible storage products (main memory and high-speed disk subsystems) for Wang VS systems.

Exhibit F

Intelogic Trace Full-Service Capabilities

- Conversion assistance
- Telephone support
- Disaster assistance
- Staging and integration
- Installation services

Source: INPUT

Intelogic Trace also offers special capabilities for IBM midrange systems, Wang systems, Novell LANs, and microcomputers.

- IBM Midrange Systems: The Uniplan package includes low-cost equipment sales and leasing alternatives, maintenance services, and a wide variety of technical support services.
- Wang Systems: A comprehensive service package incorporates specially developed diagnostics, guaranteed phone and on-site response time, and ready access to local and regional parts

- Novell LANs: I T, an authorised Novell Support Organisation, offers premium maintenance and support for Novell users. I T has developed an in-house training program for CEs covering the NetWare operating system, system management, service, diagnostics, trouble-shooting, and data communications.
- Microcomputers: I T specialises in providing maintenance services to firms having microcomputers from multiple vendors in geographically dispersed locations. I T has broad experience, servicing virtually every name brand microcomputer. ■

Snippets

- ❖ In the U.K. it was announced this September that the French company France Cables et Radio has taken a 30% shareholding in the U.K. company, Infact Ltd.

The interest for customer services in this announcement is that Infact is an intelligent buildings and communications consultancy. The company is based in London and as a result of the share acquisition, the existing U.K. business of France Cables will be handled by Infact.

France Cables et Radio is a subsidiary of France Telecom and recently formed a joint venture satellite services company with Maxwell Communications Corp PLC. This joint venture is also London based.

- ❖ An example of successful application of ISDN to the disaster recovery sector has been provided by Datashield Ltd. This example concerns a test involving the delivery of back-up services across the channel to France from the U.K. Involved in this exercise were Sogeris SA, a French disaster recovery supplier, and Credit Mutuel Maine-Anjou, a client of Sogeris operating in the banking sector and based in Normandy.

Tests were carried out using a British Telecom ISDN 2 connection and these tests confirmed that Credit Mutuel can switch its operations over to the Datashield site in Hayes near Heathrow Airport in the U.K.

Datashield is the disaster recovery arm of Data Sciences UK Ltd., the company that was formed from a management buyout of Thorn EMI Software on 1 August 1991 (see announcement in the August 1991 *INPUT Service Update*).

- ❖ More news on the subject of ISDN—the U.K. Post Office and Gandalf Digital Communications Ltd. have announced an agreement to develop an analogue voice card for Gandalf's ISDN-compatible Starmaster system.

The initial contract resulting from this agreement is valued at £3 million (about \$5.8 million) and the U.K. Post Office information technology division will use the card in its private voice and data network.

The card allows connection between analogue PABX systems and Starmaster, enabling the integration of voice and data traffic and eliminating the need to replace analogue PABX systems with newer digital versions. Initially it is planned that about 140 systems will be installed in the network.

Continued on next page

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Snippets

- ❖ In the U.K., PC manufacturer Amstrad has provided what could be a major opportunity for independent maintenance companies operating in the PC sector of the market. Whilst providing an opportunity, Amstrad may also have created a major battle between companies fighting to gain contracts for the servicing of Amstrad PCs and associated peripherals.

This situation results from a decision made by Amstrad to withdraw from providing free on-site maintenance for users of the 3000 range of PC equipment. The reason for this move by Amstrad is to save cost through reducing the level of support commitment to users, a move that reduces warranty support to a "return to base" service. The reduction in Amstrad warranty support leaves dealers free to sell their own on-site maintenance service.

One company to take early advantage of the opportunity was Newbury Data Maintenance in offering a one-year on-site warranty service to dealers for just £50 (about \$95) per PC. This offer provides next-day service and includes all parts and labour.

- ❖ In the USA, AT&T has announced the closure of its computer repair and distribution centre based in Memphis, Tennessee. Closure of the centre, which only opened about one year ago, will result in the loss of about 230 jobs; the activities carried out there will be taken over by the extensive repair network of NCR.
- ❖ Also in the U.S., Novadyne Computer Systems, Inc. has announced the award of a three-year contract to provide hardware service and support to Southwestern Bell Yellow Pages (SBYP). Novadyne will provide on-site service for SBYP's two main processing centres and an on-call service at 22 other sites in Arkansas, Kansas, Missouri, Oklahoma and Texas. With headquarters located in St Louis, MO, SBYP produces more than 400 yellow-pages and white-pages directories in a five-state territory.
- ❖ In the U.K., the Milton Keynes-based Audio Installation and Maintenance Services Ltd. has been subject to a management buyout. The new company will be known as AIMS Technology Ltd.

The management buyout was achieved with financial backing from 3i PLC, a company active in the venture capital market, and was led by Mr. Bill Sparks, managing director of AIMS Technology. Financial support for the buyout was in the form

Snippets

of £40,000 share capital (about \$78,000) on a 10,000 share issue. Mr. Sparks owns 65% of the shares and 3i owns the remainder. Following the buyout, which occurred on 27 June this year, the new company plans to clarify the separate divisions of the company and implement plans to expand into the mainland of Europe.

The company claims to have signed a £25,000 (about \$48,000) three-year contract with a computer company based in the Netherlands. This contract is for the assembly of communications cables. Currently about 70% of the company's business is oriented towards the IBM market in the areas of data services and channel cables. However, the company does not deal directly with IBM, but rather through the PCM route including companies such as StorageTek and Amdahl. Remaining business is achieved from data communications cables (about 20%) and environmental noise controllers (about 10%).

The data services division of AIMS is concerned with consultancy, project management and the environmental needs associated with the installation and commissioning of computer systems.

- ❖ In Germany, BASF AG has become the sole owner of Comparex Informationssysteme GmbH, following the sale by Siemens AG of its 33.5% shareholding in Comparex to BASF. Despite the recession that is hitting the computer industry across Western Europe, Comparex has reported a 3% increase in sales for the first half of 1991. Turnover from services provided by Comparex is rising and now accounts for about \$58 million, or 19% of turnover.
- ❖ U.S. company 3Com Corp. is considering plans for its first European manufacturing facility. Initially this new facility will manufacture Ethernet network adaptors but later will expand to include additional products. At present, plans favour the Irish Republic as a location for the new facility and a temporary facility will open near Dublin towards the end of 1991. ■

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IBM Offers a Wide Range of Services

Part 2 of a Major Review of IBM UK Customer Service

Last month's *Service Update* highlighted IBM's linkage of the achievement of corporate goals to customer satisfaction, and the programmes that have been implemented by IBM UK to achieve these goals.

Part 2 of this in-depth profile on IBM UK provides a detailed review of the range of services provided by IBM UK Customer Service.

At the outset it is worth restating that maintenance as defined by IBM means "maintaining the customer's system availability" or "maintaining the customer in business." Therefore,

maintenance in IBM terms will include traditional equipment maintenance and a range of non-maintenance services.

Part 1 of this major review of IBM UK Customer Service gave a preview of the approach to service adopted by IBM. This approach is illustrated in Exhibit A.

S → Strategy
P → Planning
I → Implementation
O → Operation
M → Maintenance
E → Evaluation

IBM has recently brought together all of its Consultancy and Services offerings under a single KNOW-HOW marketing

"Maintenance = Maintaining the Customer in Business"

In describing the model illustrated in Exhibit A, IBM uses the acronym SPIOME:

banner. Within the SPIOME business cycle the IBM

Continued on next page

IBM...from page 1

Customer Service organisation offers a wide range of services that primarily address the I, O, and M phases.

Another factor highlighted in Part 1 of this profile is that IBM Customer Service was awarded national BS 5750/ISO 9001 certification in August 1986. Also, in May this year, IBM UK

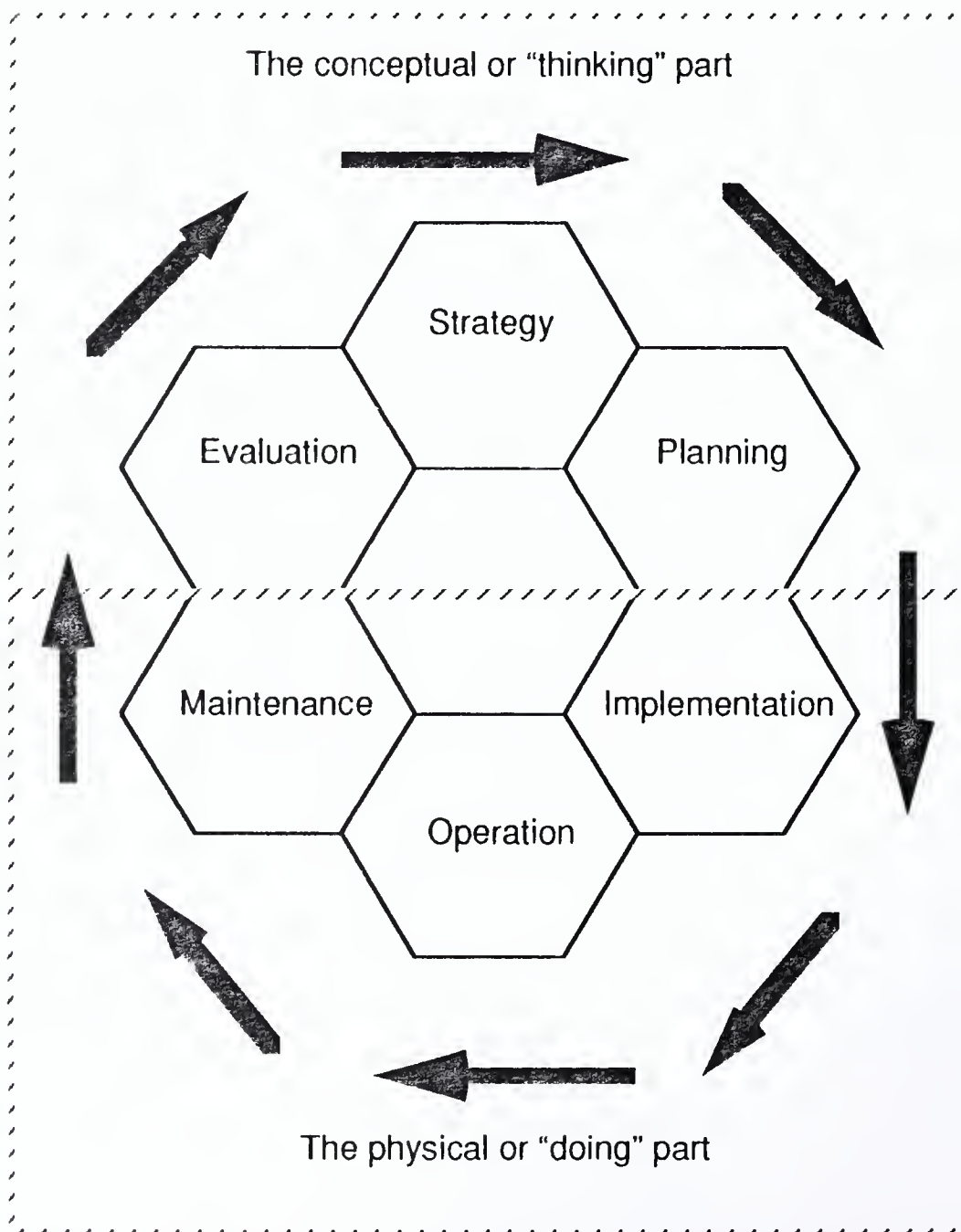
was awarded companywide BS 5750/ISO 9001 certification, which covers all IBM UK products, goods and services. Therefore, the IBM UK operations contain an element of constant quality monitoring and a visible commitment to quality. It is against this background of commitment that the range of services now offered by IBM UK should be judged.

The range of services available from IBM UK Customer Service now extends well beyond the provision of traditional maintenance.

IBM Service Package

The elements of IBM Advanced Operational Support are illustrated in Exhibit A; this exhibit highlights the business cycle that is concerned with a

Exhibit A

IBM Advanced Operational Support

Source: INPUT

customer's implementation of an information technology solution to meet a business requirement. Exhibit A provides identification of two clearly defined phases of an IT business solution or strategy;

- The conceptual phase, in which the customer decides on the precise requirements of an IT solution and how those requirements can be met by defining the system configuration.
- The physical phase, in which the IT solution is implemented within an infrastructure of services to support the operational requirements of the system.

In developing Advanced Operational Support, IBM has reasoned that choice of solution is only the first part of a long and continuing cycle of events. The second part of this cycle is recognition that installation, operation and maintenance are crucial if the user is to achieve optimum system performance and productivity.

It is in recognition of the increasing importance of this second part of the business cycle that IBM has focussed on user satisfaction as a key element of ongoing business relationships, and has extended the range of services offered to ensure full coverage of user requirements. Part 1 of this profile on IBM highlighted the fact that IBM has placed customer satisfaction at the top of its list of priorities. In order to achieve high levels of customer satisfaction, IBM must provide a full range of services to meet customer needs. In

brief, it must be seen by the customer as a business partner.

In 1987, IBM UK Customer Service started on the path toward becoming a full-service provider. The success the company achieved can be seen in the range of services offered today.

The extent to which the IBM Customer Service organisation contributes to the range of services offered to customers is illustrated in Exhibit B. This exhibit indicates how the Customer Service organisation satisfies the I, O and M parts of the IBM Advanced Operational Support concept.

The range of services provided by IBM Customer Service falls into three clearly defined categories, briefly described as follows:

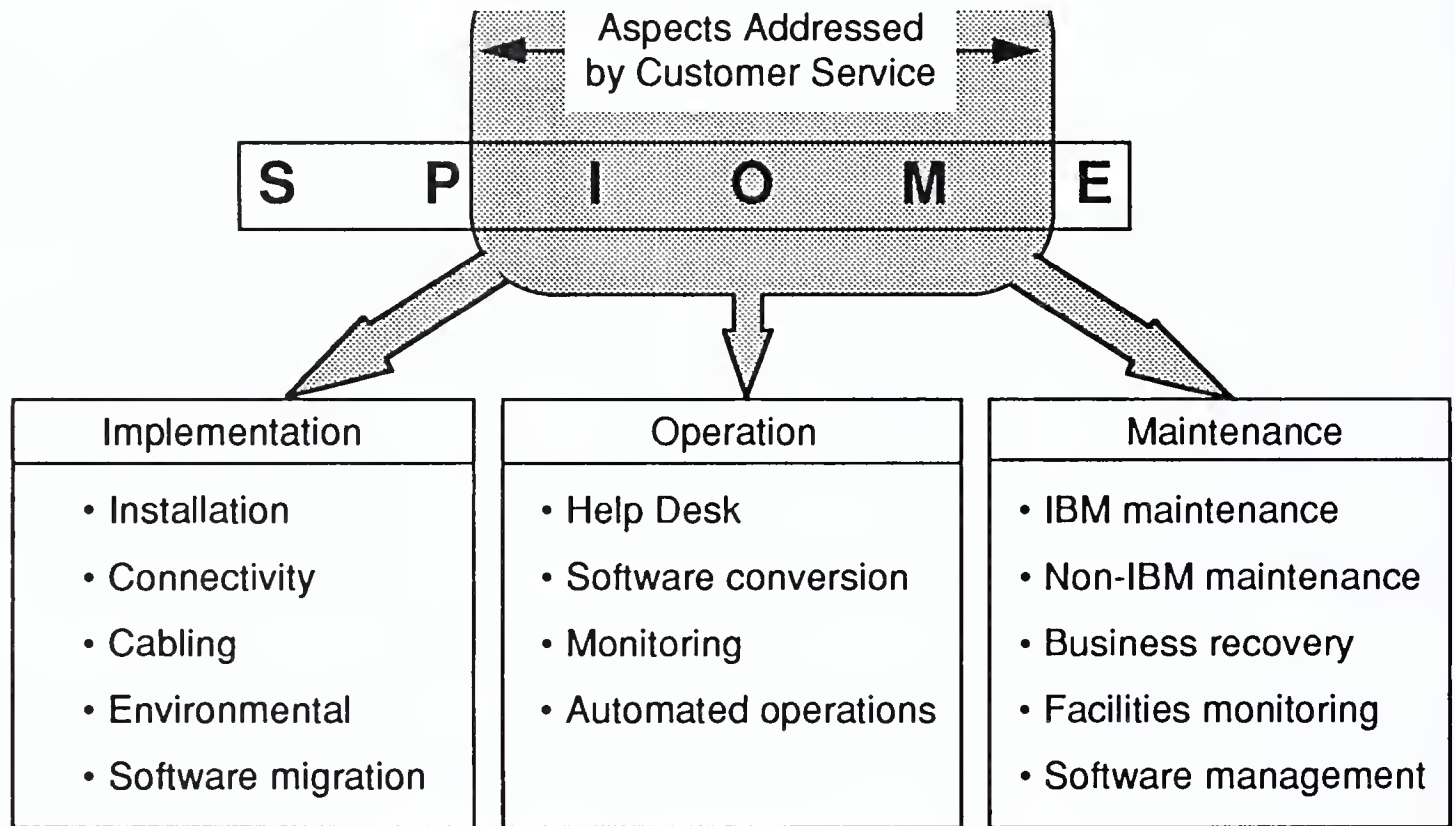
- Implementation relates to:
 - The physical planning and installation services for a wide range of IBM products, including a customised installation service for pre-configuring and customising IBM and non-IBM products. Second-user equipment can also be included.
 - IBM Cable Design and Installation services are aimed at new computer systems or network installations (including relocations). These services include the IBM Cabling Systems, which offer a complete solution for data communications wiring and fibre optic cabling.

- Site services are designed to provide, where necessary, the correct working environment for the computer system—for example, special power supplies or wiring. The service can also provide an environmental check to ensure optimisation of the computer environmental facilities.
- Software migration and conversion services are aimed at ensuring that these activities are carried out in a controlled and secure way. The service includes migration aid facilities, and training and support of customer staff.
- During the implementation phase, IBM offers degrees of support to users ranging from the provision of additional resources to full responsibility for project management.
- Operational services include:
 - Help-desk services provide access to IBM's automated help desk and services can be customised to include diagnostic and preventive aids. IBM reasons that one help-desk specialist is required for every 200 end users.
 - Software loading services provide IBM specialists to load new systems software or updates at the customer's site.
 - Monitoring services are aimed at providing checks

Continued on next page

Exhibit B

IBM Advanced Operational Support



Source: INPUT

on a number of site elements that influence computer operations. These checks include the monitoring of hardware, software and the operational environment.

- IBM provides a variety of automated service offerings. One example is IBM NetView, which provides a complete package of automated network management facilities.
- "Maintenance" service comprises a range of maintenance and non-maintenance services as follows:

- Traditional maintenance services include the warranty and long-term maintenance of IBM equipment, and also the maintenance of non-IBM equipment.
- Business recovery services are aimed at providing disaster prevention and disaster recovery facilities for customers. The service offered includes contingency planning, testing, the allocation of standby equipment at either a fixed or mobile site, and the provision of alternative sites.
- Facilities monitoring services provide continual or

regular checks on the system environment and advice on preventive or remedial actions.

- Software management services provide the customer with the capability of implementing new hardware and software functions and provide health checks on the status of the system and software maintenance tools.

This brief overview of the key elements of the service offerings of IBM Customer Service is intended to provide a measure of the extent of offerings available. However, the full

range of services is more comprehensive and it is necessary to study these in depth in order to gain a full understanding of the level of detail they contain.

IBM Services in Detail

1. Implementation Services

A listing of the full range of services offered by IBM UK Customer Service that satisfy the Implementation phase of the business cycle is provided in Exhibit C.

The following explanation provides a more detailed description of IBM's implementation services.

Machine Installation and Relocation Service - This service is intended to cover situations beyond normal installation requirements. For new IBM products, except those designated as Customer Set-Up (CSU), installation and associated activities are normally included in the purchase price. These activities usually include installation planning, disposal of displaced IBM equipment and rearrangement of equipment into the new configuration.

Chargeable service for installation applies to:

- Customers who require IBM to install Customer Set-Up (CSU) equipment
- Situations requiring installation or relocation work that is not the result of purchasing additional new IBM products

- Installation of second-user IBM equipment
- The movement of data processing sites, where IBM will take full responsibility for relocation, including transportation if required. IBM and non-IBM equipment may be included.
- Storage of equipment for periods of up to 60 days. However, IBM does not guarantee the confidentiality of data while equipment is in storage or transit, although it states that all reasonable steps will be taken to achieve confidentiality.
- Integration and customisation of customers' hardware and software into an agreed end-user configuration
- System and pilot testing prior to final installation
- Consolidating and configuring to meet staged product deliveries
- Pre-configuring and special packaging of units to allow connection immediately after unpacking
- Complete system testing to agreed criteria

Exhibit C

Implementation Services Offered by IBM

- Machine Installation and Relocation Service
- Customised Installation Services
- Connectivity Services
- Cabling Design and Installation Services
- ANO/MVS Implementation Services
- Environment Health Check Service

Source: INPUT

Customised Installation Services - The objective of this service is to provide customers with a pre-configured and pre-tested system prior to final installation. The criteria are that the customer must have taken ownership of the equipment involved prior to IBM performing the tasks required. Basic components of the service are:

- Operator training
- Products that qualify for this service include:
- Processors up to the AS/400 and Enterprise System/9370
 - IBM Personal Computer and Personal System/2 products

Continued on next page

IBM...from page 5

- Teleprocessing equipment and communications controllers
- Workstations and POS terminals

The service can include non-IBM equipment, and software can be IBM, IBM approved, customer written or purchased.

In general terms, this is a flexible service that can be structured to meet specific customer needs. Customers can also take advantage of the service to run a pilot system, thus avoiding the risks associated with running a new system for the first time in a live environment.

Examination of the products that qualify for the IBM Customised Installation Service clearly indicates that the service is primarily focussed on customers implementing midrange distributed processing systems and networks.

Connectivity Services - This offering concerns the provision of specialist consultancy, design and installation services for IBM fibre optic cabling. The service is aimed at customers who are designing a new building, installing a new system, expanding a network or moving to a new location.

Using this system of cabling, IBM states that direct channel connection is no longer restricted to the computer room and that direct channel connection is possible in up to 3-km increments.

IBM claims that this service is a complete solution to customer needs. Services that contribute to this complete solution are:

- Consultancy, available from the conceptual phase
- Complete design service
- Fibre optic cabling system design for new and old buildings
- Use of CAD techniques for cabling system design
- Design that includes flexibility to accommodate planned growth
- Choice of IBM or IBM-supervised installation
- Installation supervised by experienced IBM project managers
- IBM technical backup and support
- Contracts that are flexible and designed to suit specific customer requirements
- A one-year warranty is provided on all IBM designed and installed cabling systems

Cabling Design and Installation Services - This offering concerns the provision of services related to the implementation of a structured wiring system at a customer's site. The service includes provision of standard data outlets in all work areas, along with telephone and power connections.

As part of the complete package, IBM will provide an installation team to carry out the physical installation under the supervision of an installation controller. In cases where physical installation is not carried out by IBM, a design specification is provided that contains all the information required by the installer; for example:

- Full specifications for cables, frames, outlets and cable routing
- Standards of workmanship, including relevant installation standards, codes of practice, national and local regulations
- Listing of equipment and materials required to complete the installation
- Conceptual cabling design complete with wiring schematics
- Cabling schedules, giving types, routing, termination addresses and estimated cable lengths
- Installation of trunking, cabling and equipment racks, with marked drawings showing routes, quantities and the physical location of outlets and racks

If required, IBM will assume a project management and consultancy role during installation. In this case, IBM will provide training for nominated subcontractors.

The basic elements of the IBM Cable Design and Installation services comprise the following:

- Design and installation—a customised, single-source service to design and install an IBM cabling system
- A one-year warranty on installation by IBM
- An IBM structured cabling system providing simple installation for multiple applications
- Specialised components; for example, one simple plug acting as both male and female connection, and when combined with a faceplate also acting as a wall socket
- Elimination of multiple wiring; the IBM cabling system is an alternative to coaxial, twinaxial, twisted pair and other specialised cabling
- Improved connectivity, providing multiple configuration options—for example, chain, ring, star and mixed systems. Further, the system allows progressive migration to an IBM Token-Ring Network.

ANO/MVS Implementation Services - This service offering provides IBM expertise to customers who require implementation of IBM Automated Network Operations/MVS (ANO/MVS)—a Licensed Programme.

The service is intended to ensure a smooth and successful installation of ANO/MVS, and includes:

- A pre-installation meeting at the start of the project. The purpose of this meeting is for

IBM to explain what actions are necessary prior to installation and to devise a schedule for the various stages of implementation/installation.

- A further review takes place prior to the start of on-site activities, to ensure that customer requirements are correctly defined.
- IBM staff will carry out the installation of IBM NetView, if this is not already installed, and ANO/MVS. These products are then customised to achieve the objectives defined and agreed upon at the planning sessions.
- Following a thorough testing of the new installation, IBM will then train the customer's network operators and systems programmers to use ANO/MVS in their own environment. This training includes hands-on practical experience and instruction on how to use the newly installed facilities.

Environmental Health Check Service - This service is aimed at providing customers with confidence that the environment of their computer room meets the standards required for trouble-free operations and safety. The service comprises on-site checks that are normally completed within one day; to ensure that measurements are realistic, checks can be carried out under live operating conditions. The process of carrying out environmental checks is claimed by IBM to be non-disruptive to the customer's normal computer operations.

On-site checks carried out cover the following areas:

- Room temperature and humidity
- Floor resistance
- Pedestal-to-pedestal resistance
- Power supply voltages, 50 Hz and 400 Hz supplies
- System earthing
- Chilled water cooling systems
- Other areas specific to individual sites

Checks can be carried out at intervals defined by an agreed schedule or on an "as required" basis.

Following completion of the checks IBM will:

- Provide the customer with a comprehensive report
- Advise the customer of existing problems and how to achieve their elimination or control
- Identify potential future problem areas
- Advise the customer of the impact of the planned changes on the computer room environment
- Provide, if required, additional services to co-ordinate remedial or preventive actions

Continued on next page

*IBM...from page 7***2. Operational Services**

Exhibit D provides a listing of the full range of operational services available from IBM Customer Service in the U.K.

A more detailed description of these services is provided in the following explanation.

CICS Application Migration Service (CICS/AMS) - IBM Customer Service has introduced a service for CICS customers aimed at enhancing application reliability and compatibility. This specific service provides assistance to customers in the conversion of applications from the macro level to the more strategic command level interface. Additionally, migration to IBM CICS/ESA Version 3 requires use of the command-level interface.

The objective of the IBM CICS Application Migration Service (CICS/AMS) is to simplify the process and reduce the workload for the customer involved in the conversion exercise. Included in the service is off-site processing of applications and an on-site feedback session with the customer.

Applications source code, written in Assembler or COBOL, is sent to IBM on tape or cartridge. This source code is then processed by the CICS Application Migration Aid (CICS/AMA), an IBM Licensed Programme that performs some conversion to the command-level interface. Simple macros

Exhibit D**Operational Services Offered by IBM**

- Help-Desk Service
- CICS Application Migration Service (CICS/AMS)
- Software Conversion Service - ACF2 to RACF
- Automated Network and Automated Console Operations Service
- Change Delivery and Implementation Manager
- IBM Support Network

Source: INPUT

are fully converted and require no further attention.

The use of CICS/AMA allows only partial conversion of complex macros. Therefore, after the customer's programmes have been processed, the IBM Software Services Engineer returns them and conducts the feedback session with the customer. During this feedback session the extent of automatic conversion and how to interpretate CICS/AMA output is explained. Also, detailed instructions are provided to allow the customer to complete the conversion from detailed knowledge of the application and its design.

IBM claims that this service provides customers with the functionality of CICS/AMA without installation and operational overheads. Also, providing access to command-level programmes offers increased functionality and relief from virtual storage constraints.

Software Conversion Service - ACF2 to RACF - This service gives customers the opportunity to improve the security of their computer systems by migrating from ACF2 to RACF. This IBM Software Conversion Service consists of an initial positioning review, the migration of ACF2 operation to RACF format, and the ability to run RACF alongside ACF2. Also, additional modules can be customised and IBM will provide customer staff training and conduct a post-conversion review.

The essential focus of the service provides:

- A review of the existing security system, concentrating on the auditing, administration and technical implementation of current security software. The customer's future plans are also taken into account to ensure investment protection. At this stage an "RACF positioning and conversion report" is produced which

forms the base document for delivering the rest of the service; this report is also used for the optional resource module.

- A migration aid facility to translate ACF2 rules to RACF commands, including the training of customer staff in its use. This facility can be used any number of times on the designated system and any problems experienced in its use will be supported by the IBM Software Support Centre.
- A co-existence facility allows RACF and ACF2 to run alongside each other, a requirement of which is that MVS be installed in the target system. The co-existence facility allows ACF2 and RACF to co-exist on the same system in the following modes:
 - ACF2 makes security decisions and RACF reports on its intended actions
 - RACF makes security decisions and ACF2 remains on the system, but in quiet mode

The capability for co-existence between RACF and ACF2 ensures adequate testing, fine tuning and password conversion while maintaining user transparency during the conversion phase.

Following completion of the conversion, a post-conversion review is conducted with the customer to verify the health of the customer's IT security disciplines.

Automated Network Operations and Automated Console Operations Service - The objective of this service is twofold:

- Automatic Network Operations (ANO) provides access to IBM NetView, which allows customers' network operators a facility for automated operation of network problem determination and help-desk facilities.
- Automated Console Operations (ACO) provides automated subsystem initialisation and termination, resource monitoring and recovery.

Both of these service offerings provide for full customised installation of IBM NetView and customer-selected automation facilities, as well as on-site training for operators and systems programmers.

The automated help desk, part of the Automated Network Operations Service, can be customised to include diagnostic or preventive measures unique to the customer's network.

The Automated Console Operations service is claimed by IBM to improve operator productivity, reduce operational complexity, improve system availability and provide better system control. The service provided by IBM includes planning, installation, customer training and support.

Automated facilities provided by the installation of Automated Console Operations include:

- Message suppression

- Subsystem initialisation and termination
- System and subsystem resource monitoring
- Subsystem resource recovery

IBM provides a single point of contact for remote telephone support for 90 days following completion of on-site services.

A summary of the major elements of these IBM Network services is as follows:

- Customised network automation facilities
- IBM NetView installation, customisation and testing
- On-site training and implementation planning
- Error identification and diagnostics
- Automated help desk
- Ninety-day remote assistance and technical support

3. "Maintenance" Services

IBM uses the term "maintenance" to describe services related to maintaining availability of the customer's system. These services include traditional hardware maintenance services and a range of non-maintenance services. Exhibit E provides a listing of the services that IBM provides under the heading of "maintenance" and a more detailed explanation of these service offerings is provided in the following descriptions.

Continued on next page

IBM... *from page 9*

Maintenance Services - The IBM System Service Agreement (SSA) is aimed at providing customers with a flexible approach to equipment maintenance. Customers may choose to extend maintenance coverage to three, four or five years, and by making payment in advance have the opportunity to reduce costs considerably. Under the terms of the System Service Agreement, which is restricted to IBM products, customers can select the type of service and the hours of coverage required.

The IBM Service Agreement provides for coverage in the form of a Total System Agreement subject to the system containing a complete qualifying processor configuration. In this case the agreement can cover all directly attached IBM equipment including the IBM PC and Personal Systems ranges. Qualifying processors for the Total Systems Agreement are:

- AS/400
- System/38 5363
- Enterprise System/9370
- Enterprise System/9000 9221
- IBM RISC System/6000
- IBM Com 300

Under the System Service Agreement, payments made by customers cover parts, labour, technical and management support. An annual hardware and software system review is also provided for all systems covered by the agreement, and customers can receive training and assistance in the use of the

Electronic Customer Support facility, if this feature is fitted to their system.

Monday to Friday. Extended hours of coverage are available, and coverage can

Exhibit E

"Maintenance" Services Offered by IBM

- Maintenance Services
- Non-IBM Add-In Service for IBM PCs
- Business Recovery Centre Service
- Mobile Business Recovery Service
- Business Recovery Service Enhancements
- SiteView Services
- Uninterruptible Power Supply Service
- MVS Express/ProductPac/ServicePac
- MVS Software Management Service
- MVS Operational Exception Service
- VSE Software Management Service
- Equipment Collection Service

Source: INPUT

Customer options provided by the IBM System Service Agreement include:

- The term of the agreement ranges from three to five years from system installation date, or from the start date of the agreement.
- The type of service required may be chosen by the customer depending on the applicable types of service for each machine included in the agreement.
- Basic hours of coverage are from 8.00 to 19.00 hours,

be extended individually for each machine in the configuration or can be extended to cover the complete system.

- All additions, model changes and features added to the customer's system may be automatically included under the terms of the agreement. Additional charges may be made for additions based on the outstanding term of the agreement.
- If ownership of the system changes, the System Service Agreement may be assigned

to the new owner. This transfer facility is restricted to customers within the U.K. and is subject to prior written consent from IBM.

- The single charge for the agreement is payable within 30 days of processor installation or agreement start date and takes account of any warranty periods that apply. Once this charge is paid in advance for the complete term of the agreement, the customer is fully protected against any maintenance price increases related to products included in the agreement.
- Charges may be included in an IBM Total System Lease, along with the purchase price of the hardware and software elements of the customer's system.
- Cancellation of the agreement can be made after the agreement has been in force for at least 12 months. Termination can be achieved by giving IBM three months' notice in writing; any unused portion of the agreement will be refunded less any applicable termination charges.

Non-IBM Add-In Service - This service is offered by IBM in recognition of the wide range of add-ins, available from a wide range of manufacturers, for IBM personal computer systems and the problems that these additions can cause for customers if problems or failures occur. The service is aimed specifically at the range of non-IBM add-in memory

cards, adaptor cards, emulation cards, hard disks and power supplies.

Within the context of this service, IBM Customer Service will identify the specific failing non-IBM product and offer a replacement to solve the problem. Although IBM admits that it cannot guarantee to replace all non-IBM add-ins due to the wide range available, it does offer the service for commercially available non-IBM add-ins for specific products. These products are:

- IBM Personal Computer AT
- IBM Personal Computer XT
- IBM Personal System/2

Further, if the failing non-IBM add-in item is not commercially available, IBM will endeavour to suggest a functionally equivalent item.

The service is available through the IBM Customer Service U.K.-wide network of service points or, where applicable, it can be complementary to an IBM on-site Maintenance Agreement.

Charges for replacement non-IBM parts are based on individual quotations; non-IBM parts fitted to the customer's equipment are covered by warranty for 90 days.

Other essential features of the Non-IBM Add-In Service are:

- Single local telephone number for all hardware service calls
- Fixed labour charge for diagnostic and replacement

work carried out by an IBM Servicepoint

- Provision of price quotations and estimated delivery times for non-IBM replacements before work begins

Business Recovery Centre Service - This service provides customers with access to an IBM Recovery Centre in the event of a disaster occurring at the customer's computer site. In addition to providing a recovery site, IBM provides a range of services to aid customer planning, testing and recovery procedures.

The service provided by IBM comprises three key modules:

- Planning—Involves seminars for customer senior management to raise awareness levels and examine the potential impact of a computer-site disaster on the customer's business. An essential element of this part of the service is the provision of a Business Recovery Planning Workshop Service, the aim of which is to produce a plan. One major objective of this plan is to identify the key applications that are critical to the survival of the customer's business. The workshop is also used to identify hardware, software and network requirements, key personnel and support, and to produce a plan for Business Recovery Centre Service facilities and their use. At completion, an IBM certified Business Recovery Plan will have been developed. IBM claims that some insurance companies

Continued on next page

IBM...from page 11

are prepared to offer attractive premiums to clients with certified IBM Business Recovery Plans. In addition, IBM will provide training for the customer's staff in business recovery procedures and principles.

- **Testing**—At this stage the key activity is to test the procedures developed by the Business Recovery Plan and familiarise the customer's staff with implementation of the plan. To test, two shifts are available providing coverage between 8.00 hours and 24.00 hours each week day. At the end of the test, an IBM observer provides a full report, giving feedback and suggesting enhancements to the plan. Additional services available at this stage include:

- Remote operations bridge, if more convenient
- Network support
- Readiness review for second and subsequent years to update the plan

- **Recovery**—Immediately following a call from a customer notifying IBM that a disaster has happened, the IBM Business Recovery Centre will be prepared to receive the customer. Facilities are available 24 hours per day. The customer's contract provides for selection between two options in the event of a disaster occurring:

- A 31-day contract includes use of recovery centre facilities for 31 days at no extra charge, with extension available for a further 30 days on a daily fee basis.

- A daily contract provides access to the recovery centre for up to 61 days on the basis of a daily fee.

The IBM Business Recovery Centre Service is claimed to support very large configurations and provide a flexible network service.

Mobile Business Recovery Service -

This service is aimed at providing AS/400 users with a mobile alternative to a fixed-site recovery service. The service provided by IBM includes planning and consultancy to ensure that procedures to cover disasters are defined and implemented. Following completion of the planning phase a customer is provided with up to two days of on-site testing, followed by an annual test of the procedures and facilities.

The IBM Mobile Business Recovery Unit is a self-contained, fully configured AS/400 with associated input/output devices and up to 12 workstations. Upon arrival at the chosen site, attachment to an available power source can be made or, alternatively, a power source can be provided. The on-board Uninterruptible Power Supply provides protection from power disturbances and outages. The design of the mobile unit includes access ports for connection to remaining local-area networks and wider connectivity.

The environment of the mobile unit is fully controlled with IBM NetView monitoring where applicable.

The unit will remain on the chosen recovery site until the customer's computing facilities are fully independent. IBM considers that this period would normally be within seven days for hardware or software facilities, or 30 days for more serious disasters. This period can be extended for an additional charge.

Even though this Mobile Business Recovery Service is primarily aimed at AS/400 customers, IBM claims that it may be possible for other systems users to be accommodated. This additional capability applies where migration from other systems to an AS/400 can be practically included as part of the recovery plan.

Business Recovery Service Enhancements - In addition to the previous two disaster recovery services discussed, IBM also provides two enhancements to these services:

- **Relocatable disaster recovery facilities**—In the event of a major disaster, IBM can arrange delivery and erection of a complete computer room at the customer's chosen site. Modular units can be delivered and erected in a matter of days to provide a safe and secure computer environment. As a permanent facility, these modular structures will handle the full IBM processor range, including the 3090

product family. Facilities provided include raised flooring, suspended ceilings, air conditioning, and full power facilities including a generator if required. Availability of the facility is for up to two years with optional extension for a further two months.

- **Fixed disaster recovery centre**—This centre is based in South London and offers comprehensive computer and office facilities. The centre provides approximately 6,000 square feet of dedicated open plan computer room space with an additional 2,000 square feet of office space. The main computer room has facilities to accommodate large mainframe configurations including power distribution, air conditioning, water chilling and power frequency conversion. For example, 400 KVA of dedicated computer power supply is available and fifty 13-amp double sockets are located throughout the computer room and office area. Forty telephone lines are installed for voice, data or fax communications, and a 32-line switchboard is connected for immediate use. Use of the centre is normally for a period of up to nine months, with an option for the customer to negotiate a further three months for an additional charge.

SiteView Services - In providing this service offering, IBM provides customers with an environmental site monitoring facility. Environmental conditions on the customer's

computer site can be monitored through optionally available Robertshaw Intelligent Building System sensors with monitoring facilities covering heating, ventilation, air conditioning, lighting, power and security systems.

The transaction and application monitoring is carried out via an IBM 3270 interface to a programme developed by IBM in conjunction with the customer's operations staff.

Whenever an environmental threshold is exceeded, or if there is an unexpected result from the transaction and application monitoring, an automatic "alert" message is sent to the IBM SiteView Monitoring Centre. This centre is located at an IBM location and is staffed 24 hours per day.

Following an alert, IBM will automatically notify nominated customer contacts via message pagers.

IBM SiteView Automation Monitoring enables the customer to extend the service to high-activity MVS-based systems. Using this service provides for the monitoring of networks, transactions and applications; alerts from any source can be handled by the system.

Uninterruptible Power Supply Service - This service provides a source of uninterruptible power to AS/400 users. The service offered by IBM includes:

- **Consultancy**—Advice on the most appropriate unit based on the customer's current

AS/400 configuration and planned growth

- **Delivery** to anywhere within the U.K. at no extra charge
- **Installation**
- **Commissioning**—Including a full test of the customer's system and the installed power supply
- **Warranty**—Provided for a period of twelve months with an option to extend this for an additional period of two years

IBM offers a range of uninterruptible power supplies extending from 6 KVA up to 100 KVA ratings.

MVS/Express, MVS/ProductPac, MVS/ServicePac - With this service, IBM provides three software offerings designed to ensure that MVS software is quickly installed and easily maintained.

MVS/Express allows customers who need a basic MVS operating system installed quickly to have it installed in one day. The basis of this service is a pre-generated and tested MVS system with the IBM Licensed Programmes already installed. Installation is carried out at the customer's site by an IBM Programme Support Representative and includes full testing and verification.

All products available in IBM/CBIPO, plus IBM CIS and IMS, are supported by MVS Express.

MVS/ProductPac is a software package in which the installation procedures and

Continued on next page

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documentation have been specifically customised to match a customer's system. The service includes all the machine-readable material required to install selected IBM Licensed Programmes and their maintenance. Also included are fully updated technical changes, Programme Temporary Fixes (PTF's) and the latest Preventive Service Planning (PSP). MVS/ProductPac comes complete with an individually produced step-by-step installation guide which consolidates all the information required by individual customers.

MVS/ServicePac is a software package developed by IBM to anticipate and correct potential software problems before they arise. The service consists of a package of Programme Temporary Fixes and installation procedures that are based on information collected through IBM's worldwide communications network and database, which logs all customer software problems and their solutions. IBM personnel use this information, in conjunction with data supplied by the customer, to create the appropriate level of software maintenance for a specific customer system.

MVS Software Management Service - This service provides a flexible software management system customised to meet the requirements of individual customers. Customising takes into account:

- Current service level
- System software complexity

- Current system management
- System modifications
- Customer's support staff

In providing the service, IBM has developed three levels of service for customers.

- Basic Service
 - Customised service to achieve and maintain the ideal service level
 - Follow-up customer reviews
- Enhanced Service
 - Includes Basic Service
 - Provides user monitoring for potentially critical errors
 - Packaged Corrections Service for which electronic delivery may be used
- Enhanced Service Plus
 - Includes Enhanced Services
 - On-site installation of all provided service updates

MVS Operational Exception Service - IBM has developed this service to allow customers to monitor the key operational elements of an MVS system. The product on which this service is based is OPEX, a product originally developed by IBM for in-house use.

The service provided by IBM includes training the customer's staff in the use and support of OPEX programmes, documentation, and assistance with the installation of OPEX. Installation can be achieved in one day.

The essential elements of the service are as follows:

- Only monitored exceptions and relevant information are displayed.

- OPEX interprets information before it is displayed.
- Monitoring consoles can be consolidated if used in conjunction with IBM NetView.
- Early warnings enable pre-emptive action.
- Responses can be automated if used with products such as IBM NetView.
- Ongoing support is provided by IBM's Software Support Centre.
- Simple customisation is provided.

VSE Software Management Service - This IBM service is aimed at assisting customers in keeping their VSE software fully up to date. In developing the service, IBM adopted a flexible approach allowing customers a number of options. For example, customer choices include:

- The number of products to be included in the service
- The type of service required, for example:
 - Refreshing VSE software to include recent fixes
 - Updating to a new version
 - Refreshing and updating, plus the installation of new IBM licensed programmes
 - Installing a VSE system on a new processor

The standard service includes a visit to the customer's site and

the installation of a VSE system, containing recent preventive maintenance, twice per year. Work is carried out during normal working hours.

Enhancements to the standard service—for example, visits outside normal working hours—are negotiable.

Equipment Collection Service - In addition to the range of services previously discussed, IBM also offers an Equipment Collection Service (ECO) that provides for the environmentally friendly disposal of IBM products, parts or supplies that have reached the end of their productive life cycle.

This service applies to all owners of IBM products, parts or supplies.

In Conclusion

To conclude this somewhat lengthy and detailed two-part profile of IBM UK Customer Service, it is appropriate for INPUT to summarise and comment on the key points that emerge. The key achievements of IBM can be outlined as follows:

- Commitment to quality
- Recognition of customer needs
- Development of a wide range of services
- Understanding of the need for flexibility

IBM's stated commitment to *quality* is demonstrated in many areas. Firstly, as an early qualifier for BS 5750/ISO 9001 certification, achieved in 1987, and more recently, companywide certification to this quality standard. INPUT contends that this level of visible commitment to quality is a clear indication of intent.

Commitment to quality is one aspect, but that commitment needs to be demonstrated by measurable results. By implementing the REFLEX programme, IBM has provided a platform for measurable quality to be achieved and also for quality performance to be recognised. INPUT considers that achievement of a satisfied customer base is a good foundation on which to build ongoing relationships with customers.

The success of the REFLEX programme should not be underestimated. In just nine months from the implementation of REFLEX, the percentage of dissatisfied customers has been reduced from 6.5% to 2.2%. Further, the level of success achieved by REFLEX has exceeded IBM's targets by a relatively substantial margin—the original target was to achieve a level of 3% by the end of 1991. The degree of success achieved by IBM is encouraging and inspires confidence that it is committed to achieving its goal of zero defects.

A second IBM goal, stated in Part 1 of the profile, was to become a services company. The success that IBM UK has

achieved is highlighted by the range of services now offered by the Customer Service organisation. However, structuring a wide range of services is just one aspect; a more important factor is that these services address a customer need. Further, the service offerings need to include elements of flexibility to match the requirements of individual customers.

The first point to note is that most of the services offered by IBM UK Customer Service contain the important element of flexibility. Study of the service offerings will highlight the potential for customisation to meet the requirements of specific customers. One example of this approach is proved by the Help-Desk Service, which can be customised to include diagnostic and preventive aids.

The second point to note is that most of the services offered provide customers with an opportunity to reduce the burden of administrative and housekeeping activities associated with running computer operations. In providing this type of service, IBM has recognised that customers are becoming increasingly interested in the provision of information, but less interested in the mechanics of computer operations. Important examples of IBM's activities in this area are the services that provide site/system monitoring, software installation, software maintenance and system security.

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However, there is one specific service offered by IBM that clearly addresses a key customer need—the provision of disaster prevention and recovery services. Until about two years ago, equipment vendors, with the exception of Hewlett-Packard, were noticeable by their absence in this sector of the service market. This absence was, in INPUT's opinion, a failure to recognise customer needs and resulted in leaving customers exposed to unnecessary risks.

IBM has now addressed customer needs for business protection and in doing so has structured a wide range of disaster prevention/recovery services. It would appear from the range of services offered that most eventualities have been covered. Further, the choice offered to customers contains the important element of flexibility.

Following completion of this detailed profile of IBM, the IBM customer base should be left with two clear messages:

- IBM is fully committed to achieving its quality goals.
- IBM UK has made substantial progress along its chosen path to become a services company.

However, there is one factor crucial to success and that is corporate-level commitment. INPUT considers that IBM has demonstrated that level of commitment to date in the successes achieved. ■

Granada Update**Granada Computer Services Announces More Successes... and More Changes**

Granada Computer Services, Europe's largest independent maintenance company, has announced two more success stories in the U.K.

Success Number 1

The first of these successes concerns an expanded partnership with Brother, the printer and office systems manufacturer. Brother has expanded this partnership with a new one-year agreement for Granada Microsystems Division (MSD) to cover warranty and maintenance of its entire range of office computer equipment. This new contract is in addition to the current maintenance, by Granada, of Brother's system printers.

Prior to this new contract, Brother held contracts with a number of different maintenance companies throughout the U.K., but "has decided to use Granada MSD because of its pedigree and ability to offer tailor-made services to end users on a nationwide scale."

Equipment covered by this contract will be laser, impact and daisy wheel printers, and PCs and word processing units. The services provided will include on-site warranty with next-day response, component level repair, preventive maintenance and installation.

John Harris, Granada MSD Sales Manager, explained: "This is one of our largest manufacturer support contracts to date; around 70 MSD engineers will work on Brother equipment on a day-to-day basis. The single point of contact with Granada's nationwide operation offers the customer both simplified administration and the provision of services previously unavailable to their end users."

John Carter, General Manager of Brother, commented: "My number one priority is to provide the best possible maintenance service to all Brother customers and, I believe, using Granada is the best way to achieve this. We've been very pleased with their service in the past, and I have every confidence that our clients will benefit from the same high standards through our new extended arrangement."

Success Number 2

The second success story announced by Granada Computer Services concerned the award of a contract in Dublin, Ireland.

Granada has been appointed by the Department of Justice to maintain its Digital mainframe equipment. For the past two years Granada has been maintaining the Department's IBM systems.

The equipment, based in Dublin, runs critical applications; continuous 24-hour systems availability will be ensured by dedicated engineering support.

In commenting on this new contract, John McHale, Granada's general manager said: "This marks the company's further expansion into the government sector and demonstrates the level of confidence placed in Granada by the country's largest information technology users."

Granada has been operating in Ireland since 1987 and claims that customers include organisations in the banking, commercial, education and Government sectors.

Success is Followed by More Change

Following closely—less than one month—behind the announcement by Granada of two significant success stories, the company was subject to a substantial organisational change.

On October 17, Granada Group announced that it was implementing substantial reductions in headcount among the European operations of Granada Computer Services International.

Restructuring of Granada Computer Services International will result in the loss of 550 jobs.

Of these job losses, about 330 will be in the U.K.; the cuts are claimed by Granada to be mainly in the sales and marketing areas. The remainder of the job losses will occur in the other 10 countries in which the company operates.

The job losses have occurred as a result of moves by the parent group, Granada PLC, to improve the profitability of its computer maintenance operations. The company claims that the computer maintenance operations will be profitable by the end of the year.

Restructuring costs that result from this latest move by Granada are estimated at about £15 million (\$28 million). ■

IBM Offers Software Mall



A new applications software service from IBM—the Software Mall—is announced for a November 15 opening. The service is available through the IBM Information Network and IBMLink, and will provide subscribers with access to over thirteen software vendors offering services such as bulletin boards, electronic mail, electronic delivery, Q&A support, and electronic ordering of software and services.

"Store owners" who have signed up for the November opening include Candle Corporation, Computer Associates International, Inc.,

COMPUWARE, Kimberly-Clark Computer Service, KnowledgeWare, Landmark Systems, Legent Corporation, Pansophic, PLATINUM Technology, Proramart Corporation, Soft-Switch, SRA, and Velocity Software.

Store owners will provide services for programs, other than operating systems, that are compatible with IBM's operating systems. Support will vary from vendor to vendor. Capabilities available include:

- Message exchange regarding hints and tips, problem

reporting, technical information, and announcements

- On-line bulletin board service containing notices and information
- Software fixes and patches delivered on-line to customers
- Software uploaded from the customer to the store owner for diagnostic purposes and other electronic data interchange
- On-line forms for enrollment, ordering, question or data submission, or requirements submission

Continued on next page

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- Access to the IBM Information Exchange and IBM Mail

- Optional access to remote screen viewing for diagnostic purposes and to provide on-line education

The customer may incur additional charges for the use of the IBM Software Mall and other charges based on the type of services required from the store owner. ■

Snippets

- ❖ In the USA, there is some talk that NYNEX is seeking to divest itself of The Data Group, which it acquired in late 1985.
- ❖ In the USA, JWP has announced organisational plans for the newly acquired Businessland. The new venture will be named JWP Businessland, with headquarters in Canton, MA. After progress has been made in merging the two organisations, it will focus on the service side of the business. It is believed that the real growth areas are in the services offered to customers.
- ❖ Intellogic Trace, one of the largest independent maintenance companies in the USA, has reported improved fourth-quarter financial performance. The latest figures released by the company indicate that net fourth-quarter losses were \$10.1 million, compared with losses of \$12.3 for the same quarter last year. Net losses for the year to 27 July were also reduced to \$13.3 million, compared with \$19.6 million for the same period last year. Fourth-quarter 1991 turnover was down 4% at \$35.3 million.
- ❖ Following in the footsteps of IBM, Digital has announced a subsidiary in Poland as a continuation of its investments in Eastern Europe. The new subsidiary, based in Warsaw, will open in November and will initially employ about 30 staff.
- ❖ In a revision of its original decision to close its personal computer plant at Little Rock, Arkansas in the USA, AT&T has now said that the plant will not close. However, 300 jobs will still be cut over the next few months.
- ❖ ICL has announced the signing of a £2 million (\$3.5 million) contract with AAH Holdings PLC in the U.K. This contract is for the supply of 500 new 9520 series PC-based point-of-sale terminals. The new terminals will form part of the LINKPoS project, aimed at supplying complete point-of-sale systems to independent pharmaceutical retail outlets.

ICL's participation in this project is with PoS Halifax, a software house based in West Yorkshire, and Granada Microcare, an independent maintenance company and part of the Granada group.
- ❖ Following announcement by IBM that it was restructuring its Scandinavian operations to simplify and consolidate the reporting lines, IBM has now announced a similar restructuring in the Benelux region. From 1 January next year, important management activities in Belgium, the Netherlands,

Snippets

Luxembourg and Ireland will be centralised in Antwerp, Belgium. The new centralised organisation will be known as IBM North-West and the company indicates that between 15 and 20 staff will be employed at the Antwerp location.

In justifying the inclusion of IBM Ireland with IBM North-West rather than consolidation of it with the U.K. operation, IBM claimed it was a matter of structure. IBM Ireland is relatively small, employing about 370 staff, and has more in common with the European operations with which it is being combined than with the extremely large U.K. organisation. IBM Ireland has always been part of IBM Europe and not the U.K. organisation.

One result of this restructuring by IBM is that headcount in the region will be reduced. One thousand jobs are expected to be lost at IBM Netherlands and 350 jobs at IBM Belgium over the next three years.

- ❖ CRC is to buy Rodime's disk repair centre at Glenrothes, Scotland in the U.K. Following the demise of Rodime as a disc drive manufacturer, the company's facilities were placed in the hands of an Official Receiver. CRC Ltd has negotiated the purchase of the Rodime disk repair centre with the appointed receivers. CRC, a subsidiary of Memec (Memory & Electronic Components PLC), based in Thame Oxfordshire U.K., indicates that it will make substantial investment in the newly acquired repair centre in order to offer a more comprehensive service to disk drive manufacturers and OEMs. The level of service offered will include exchange services, customer support, development services and end-of-the-line manufacture.

In 1990, CRC was estimated to employ over 110 staff in independent maintenance, operating from six service centres in the U.K. Independent maintenance revenues for 1990 are estimated to have been about £2.5 million (\$4.3 million).

- ❖ StorageTek and Groupe Bull have entered into a partnership agreement that covers a period of at least five years and is expected to provide StorageTek with about \$500 million in revenue over the five-year term of the agreement. Under the terms of the agreement:
 - Bull will distribute and maintain StorageTek's storage products.
 - StorageTek will become the preferred supplier of storage products to Bull for all Bull environments.
 - Bull will distribute StorageTek products to Bull users.The agreement also provides opportunities for:
 - Bull to supply standard computer systems to StorageTek for integration into its mass storage systems
 - The establishment of joint research and development programmes ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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Service Update

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Learning Tree—An International Training Company

Learning Tree is a privately owned company that claims to be a world leader in advanced technology education. The company's headquarters are in Los Angeles, CA, USA with operations covering the USA, Canada, Western Europe and Japan.

Formed in 1974, Learning Tree now has a team of over 500 instructors presenting over 2,000 training courses annually. In founding the company, Dr. David Collins and Eric Garen recognised a clear need for educating working engineers in

computers, communications and related technologies. They decided to create a multinational company devoted to these tasks.

In describing the benefits of Learning Tree education and training, the company highlights the following attributes:

- High and rapid return on investment—the company claims that clients report an average productivity improvement of 27% following participation in its courses
- Improved competitive position through reduced costs and increased productivity—Learning Tree claims that its instructors spend 80% of their time working within their own fields of activity and 20% sharing up-to-date knowledge with training course participants. Using this approach instructors can transfer the "best practices" based on many years of hands-on experience.

Continued on next page

Tree...from page 1

- A guarantee of satisfaction—after more than 1 million participant days of training, Learning Tree feels that it can provide this guarantee with confidence. In backing up this level of confidence, the company offers to refund the full training fee unless clients feel 100% satisfied.

The chronological history of the company can be summarised as follows:

- Founded 1974 in Los Angeles, CA, USA
- In 1975, the European headquarters were opened and the first courses presented in Japan.
- Between 1980 and 1981, Learning Tree was employed to train the entire IBM team that would be responsible for developing the IBM PC.
- In 1985 the Canadian centre opened in Ottawa.
- Between 1986 and 1989, the number of employees grew to 500 worldwide and company investment exceeded \$5 million.
- In 1989, the company name was changed to Learning Tree International and the company completed delivery of 1 million participant days of training.
- In 1990 Learning Tree International KK was formed in Japan.

Within Western Europe, the scope of training currently offered by Learning Tree is relatively wide—the courses available range from management training to microprocessors. Some of the training courses available are:

- Courses for Managers in Technical Environments, comprising six short courses, each of four days' duration, costing about \$2,100.
- Software Development and Project Management, comprising nine short courses of four days' duration, costing about \$1,950.
- Networks, Data Communications and Telecommunications, comprising nine short courses of four days' duration, costing about \$2,100.
- Hands-on courses on "C", UNIX, and OS/2, comprising nine short courses of four days' duration each, costing about \$2,100.
- PC Trouble Shooting, Microprocessors, Signal Processing, Graphics and Signal Processing, comprising six short courses of 2-4 days' duration, costing between \$1,200 and \$2,100.

In presenting its view of key trends and issues related to the European training and education market, Learning Tree highlights:

- The return on investment for both users and vendors is becoming increasingly important. From the users' point of view, historically only a minority of organisations have attempted to measure the effectiveness of training. However, now there is a trend towards more sophisticated systems for measuring productivity and efficiency gains. From the vendors' perspective, there is a need for improved methods of justifying the return on the training investment made by users.
- Resulting from pressure within organisations to reduce costs, there is an increasing need for users to justify expenditure on training and also to identify which skills are strategic to their organisation.
- There is an opportunity to develop and provide access to training through the medium of user applications. This can be achieved by integrating the design of training modules into the design of applications.

- Technical professionals—for example, professional DP staff—will progressively need more training and be exposed to training on a wider range of subjects. This will specifically be related to:

- Datacommunications
- Graphics
- Fibre Optics
- Image Processing
- Networking
- Software Engineering

The make-up of the Western European revenue base is illustrated in Exhibit A.

Exhibit A

Learning Tree Western European Revenues, 1990

Country Market Operation	Percentage of Revenue
France	35
Sweden	20
United Kingdom	45
Total	100

Source: INPUT

Learning Tree is of the opinion that training is not necessarily the first item to suffer from budget cuts in times of recession, at least not at the more advanced level. In commenting on the skills shortage, Learning Tree suggested that this state is, to a degree, due to users' poor use of existing skills.

However, the company feels that the key to market growth is successful measurement of training benefits—provided that the training is successfully implemented. Further, the growth of UNIX will be a major factor that will contribute to the future growth of training.

The worldwide training revenues of Learning Tree are between \$50 million and \$60 million, of which about 50% is generated within Western Europe.

It should be noted that training revenue credited to the United Kingdom includes some revenue from the training of non-U.K. students. About 25% of the United Kingdom revenues occur as a result of these activities, and relate to training for students from the Netherlands and Scandinavia (excluding Sweden). ■

TPME— A Maintenance Consultancy Company

Third-Party Maintenance Exchange (TPME) is a U.K. company that describes its business role as that of a maintenance consultancy. The major activity of the company is to act as a broker for maintenance contracts. This means that when a client has specific computer maintenance requirements, TPME will seek to place the maintenance contract with a company whose capability matches the client's needs.

In return for the services provided, TPME charges a 10% commission based on the sales value of the contract placed.

In order to support its business and as a platform from which to provide an extensive and specialised service, TPME claims to have a database identifying about 2,600 companies or individual specialists available to support its clients. In addition, TPME claims to be adding one company to its database each week, and that in the two years the company has been operating it has only failed to place a contract four times as a result of being unable to locate a suitable contractor. Exhibit B provides an overview of the company.

Primary Activities

TPME was formed in 1989 by Sheron Hassell and currently operates from a rural location

Exhibit B

TPME—An Overview

- Provide true single-source maintenance through resource management
- Access to over 2,600 maintenance specialists
- Support service vendor subcontracting needs
- Offer a wide range of consultancy services

Source: INPUT

near Woking in the U.K., south of London. Sheron Hassell had worked for many years in sales within the independent maintenance market and had become bored and disenchanted by this activity. He could see great opportunities for true single-source maintenance but was frustrated at being unable to close contracts due to lack of true single-source capability.

It was as a result of this disenchantment and frustration that TPME was founded. The initial objective of the company was to capitalise on the opportunities offered by single-source maintenance, and to achieve this objective by developing a resource capability to satisfy a wide range of client needs.

The primary activities of the company include the resourcing and maintenance of manufacturer and independent maintenance company subcontracting requirements and the resourcing of warranty for manufacturers and importers. The company is wholly owned by Sheron Hassell and employs four full-time associate consultants and one part-time associate consultant. Between them, the staff of TPME claims to have in excess of 100 man-years of experience in maintenance management.

The aim of the company is to provide service vendors with a single-source solution—through subcontracting—throughout the U.K., Europe and beyond.

Having identified this aim, TPME has developed plans to extend its geographic coverage to include the mainland of Europe, and intends to commence implementation of these plans at the end of 1991.

TPME does not provide any service capability itself; this is left to subcontractors.

In providing a subcontracted maintenance capability for clients, TPME is able, through the use of its extensive database, to match specific needs of clients. For example:

- If a client requires maintenance to be carried out by a company to BS 5750/ISO 9001 standards, the company will ensure appropriate routing of the contract.
- If a client requires maintenance on a relatively unique equipment

configuration or old/obsolete equipment, TPME's database allows it to identify a supplier with appropriate skills.

Associate consultants generally work from a home base and communicate or access databases via a network.

Beyond Maintenance

Although maintenance consultancy is the primary object of the company, TPME also provides a range of services extending beyond this base. Exhibit C gives an indication of the full range of services offered by TPME.

In addition to maintenance consultancy, TPME offers a wider range of services that it groups generically under the heading Computer Services. These services include:

- Financial Analysis, including aspects such as:
 - Profit expectation from service
 - Service product positioning and pricing
 - Identification of cost-saving areas
 - New service pricing
 - Balancing profitable and unprofitable services
 - Profit optimisation
 - Future trends
- Strategic Planning, including the following areas:
 - Developing new services
 - Penetration of new markets
 - Service marketing
 - Partnership and co-operative agreements
 - Impact of 1992 European harmonisation on service markets
 - Acquisitions and divestiture
 - Quality BS 5750/ISO 9001 applicability and achievement
- Product Evaluation, which includes assisting clients with the evaluation of products in terms of assessing the degree of user need fulfillment, identifying additional development required,

Exhibit C

TPME—Range of Services

- Maintenance consultancy
- Assistance for companies developing support capability
- Help for companies responding to large tenders
- Provision of independent advisory services

Source: INPUT

Continued on next page

TPME... *from page 5*

identifying delivery channels and developing product launch programmes.

- Training, which provides a relatively wide range of training courses for clients, extending from technical training through sales training and including seminars. For example:
 - Technical training ranges from appreciation courses to in-depth courses covering hardware and software products, including networks.
 - Sales training ranges from sales appreciation courses to product or service sales.
 - Seminars include subjects such as quality, computer services, marketing and customer care.

A Project Example

In order to more fully explain the primary activities of TPME, a brief summary of a project it undertook with Aston University in the U.K. follows.

Aston University claims to be one of the U.K.'s leading computer colleges. At present, Aston has a claimed population of about 6,000 including 4,000 students, 250 academic staff and almost 2,000 other staff. Most of the academic staff and administrators have a computer or close access to one. The university estimates that it has about £10 million (\$18 million) worth of computers and

associated equipment. This installation includes a recently installed local-area network valued at about £4 million (\$7.2 million) with over 2,600 access points.

The problem Aston University was confronted with was that its computer systems were supplied by a wide variety of vendors, including older equipment supplied by ICL, Teac and Geac, as well as the more mainstream suppliers. Having a wide range of equipment installed, the university was becoming increasingly disenchanted with the service provided by the manufacturers of the equipment, claiming that each manufacturer was only interested in supporting its own equipment. Further, there were many arguments between rival engineers as to where faults were located when problems arose.

As a further complication, the university was keen to have resident site engineers, and the suppliers were unwilling to provide this service.

In order to reach a solution to these problems, the university decided to discontinue a multitude of different service contracts and enter into a single-source contract with a specialist supplier.

Enter TPME

With assistance from TPME and its consultancy services, the university was able to locate a specialist single-source maintainer. TPME worked with

the university to put together a deal with a relatively newly formed company, Fifth Party Computer Services.

The contract developed is estimated at about £500,000 (almost \$1 million) over a three-year period, and under the terms of the contract, the university will get a resident on-site engineer.

Fifth Party Computer Services is headed by Mr. Bob James, formerly with DPCE, and was formed in 1990 by five experienced engineers.

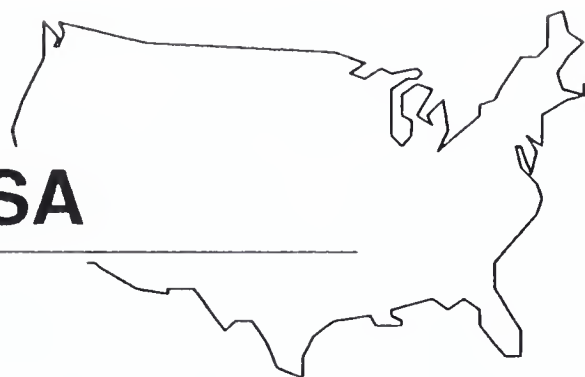
**TPME—
The Raison d'Etre**

In explaining its activities, TPME focussed on a key factor that it considers will contribute to future success. That factor is that it is easier to set up a network of maintenance capability than it is for a company to set up business, particularly where setting up at the international level is concerned. Therefore TPME believes that its planned move into the mainland of Europe will be successful.

For further information, contact:

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News from the USA



U.S. Trends in Desktop Services

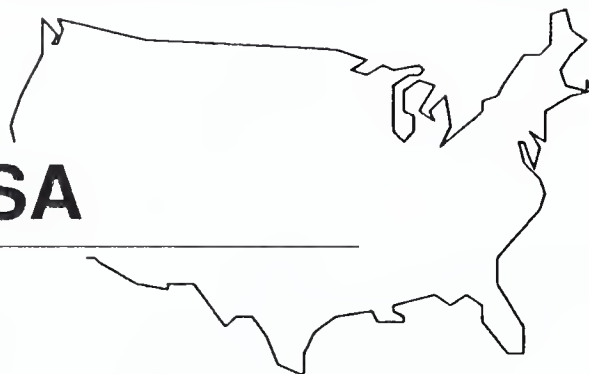
Companies are using more personal computers to accomplish critical applications than in the past. The critical nature of the applications has created a demand for service on the PCs to keep them up and running with increased availability.

The service vendor has to deal with various configuration combinations when pricing the service on the equipment. RAM memory is one aspect of the service pricing that must be considered. Some vendors will base the service contract price on the maximum amount of RAM installed on the machine. Another twist on the RAM-based pricing is one price for a range of RAM, up to a maximum amount. Bell Atlantic Business Systems Services places more weight on the size of the hard drive installed than on the amount of RAM installed, and bases the service price on the size of the hard drive. ■

Continued on next page

News from the USA

...from page 7



U.S. Service Requirements Studies Soon To Be Released

The 1991 U.S. user requirement studies soon to be released by INPUT show the continued emphasis on service quality aspects when users are selecting a service vendor. In all three equipment size ranges (large systems, midrange systems, and PC/workstation systems) users rated the quality of service as more important in selecting a service vendor than price or other contractual issues.

In the early- to mid-1980s, service quality and price went back and forth as most important to users. Research in the late 1980s showed that users were becoming more consistent in considering service quality more important than price in judging their service providers. This could be due to the increasing importance to the core business of applications run on personal computers.

Other issues examined in the user requirements studies include systems availability, response time, repair time, and the demand for services ancillary to the maintenance function. ■

Snippets

- ❖ In the U.K., Wang has offered its data centre for sale. The centre is part of Wang's U.K. division and is located at Brentford Middlesex. Wang claims that this move is part of a restructuring programme it has named "Operation Quantum Leap", which is being driven by Wang's European Headquarters in Brussels. This restructuring programme involves the centralisation of order processing, distribution, invoicing and purchasing at a newly established Business Operations Centre in Brussels. As part of the reorganisation, all Wang European data centre functions are being relocated to Brussels.

The U.K. data centre employs 32 staff and operates 18 VS minicomputers and a WangPak X25 network.

Centralisation of data centre facilities in Brussels infers that all 11 of Wang's European subsidiaries will be affected and that these subsidiaries will operate under the control of Brussels.

- ❖ Following the acquisition of Digital Research Inc., Novell is to restructure into three divisions. It is believed that the restructuring results from a need to cope with an expanded range of services and products. The three new divisions of Novell are:
 - NetWare Systems Group, which will handle the product development and marketing services of NetWare network services, IBM communications, Apple Macintosh and database products
 - Interoperability Systems Group, which will handle product development and marketing of UNIX products, TCP/IP and ISO standards products, messaging products, WAN networking systems technology and network management product development
 - Digital Research Systems Group

Each of the new groups will report to Novell Chief Executive Mr. Ray Noorda.

Continued on next page

Snippets

...from page 9

- ❖ Compaq has announced a major revision of its previous marketing strategy, which was aimed at a dealer-only marketing channel. The company is considering mail order marketing and is preparing straightforward entry-level products free of unnecessary features. New target markets include home, education, small and medium-sized businesses and government offices. In the USA Compaq has signed Merisel Inc. and Tech Data Corp. to distribute Compaq products to VARs and has retained General Electric Computer Service and TRW's Customer Service division to provide on-site maintenance. On-site service was previously carried out by dealers.

In total, six senior officers of Compaq have now left the company as a result of recent changes.

- ❖ In Europe, dealers of second-user Digital equipment have decided to promote their own maintenance guarantee certificate. This action is claimed to result from three years of delays by Digital in developing a solution. Thirty-eight dealers representing the European Digital Dealers Association are recruiting independent maintenance companies across Europe to provide maintenance under the scheme. Plans were for the dealers' representatives to have met in Amsterdam on November 20 to draw up the terms and conditions of a certificate.

Dealers claim to be frustrated at the lack of progress made by Digital, although Digital now claims to have established a position and will make a formal announcement soon.

- ❖ General Datacomm Ltd., based in Wokingham U.K., has opened a European Technical Operations and Assistance Centre with the capability to provide network management services. It is claimed that the new centre can provide a network management service 24 hours a day, seven days a week for as long a period of time as customers require. A dedicated line from the centre to the most convenient customer node provides 24-hour coverage.

The basis of the network management service is that General Datacomm monitors the network at 30-minute intervals, keeping a log of any incidents or responses. Customers will receive a monthly copy of the log. Thresholds determining intervention or

Snippets

action are specified by customers and defined escalation procedures are set for problems unresolvable by normal routine procedures.

Current customers include British Aerospace, Shell, Volvo and Express Newspapers. The degree of cover provided varies depending on individual customer needs. General Datacomm is seeking to expand the customer base to increase service revenue contribution from last year's 34% to 40%.

- ❖ Hewlett-Packard is now providing a free, one-year, on-site limited service warranty on all Vectra 486 PC models. Furthermore, the company is extending on-site service to all Vectra 486 models still under warranty.
- ❖ Norsk Data and Siemens Nixdorf have reached agreement to form a partnership. The partnership between the two companies concerns Siemens Nixdorf combining its Norwegian operations with Norsk Data Partner marketing and systems integration company. This company deals mainly with national and local government and the offshore oil industry. The majority shareholder in this agreement will be Siemens Nixdorf; the agreement includes an option for Siemens Nixdorf to acquire Norsk Data's total shareholding. The newly merged company will also take over the activities of both companies in Sweden and Denmark.

In the first half of 1991, Norsk Data Partner had a pre-tax loss of \$39 million, compared with a profit of \$150,000 for the same period last year. On the basis of financial performance, the agreement to merge with Siemens Nixdorf should be seen as a benefit to Norsk Data.

- ❖ An example of the impact of downsizing was provided recently in the USA. The University of California's Lawrence Livermore National Laboratory is investing \$1 million in a cluster of 14 IBM RS/6000 Powerserver 550s; the objective is to create a UNIX computer server in the laboratory's Open Computer Facility. The 550 is IBM's most powerful RS/6000 machine and the new installation will run AIX 3 UNIX.

The downsizing factor is that the RS/6000 installation will replace a Cray X-MP supercomputer and an Amdahl mainframe. ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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1991—A Year of Challenges for the Western European Computer Industry

The past year has witnessed very difficult market conditions for system vendors. Whilst economic recession in some countries has been a factor, the signals from the market indicate that more fundamental changes are affecting the whole information technology sector—principally, the three revolutionary forces of:

- Downsizing
- Networking
- Outsourcing

Downsizing computer systems is possible because of the availability of low-cost, high-power computer systems that can be easily and cost-effectively linked together through *networking*. New forms of system design—e.g., client/server systems—can replace the need for large centralised mainframes.

Networking thus opens up the opportunity to distribute

computer power to the point where the work takes place. The ability to move information (and thus ideas) quickly and cheaply will have a revolutionary impact on the acquisition of business, commerce and administration, just as the great nineteenth century revolution was the development of transportation systems, which allowed for the cost-effective movement of people.

Continued on next page

1991 ... from page 1

Outsourcing has manifested itself within the IT market principally in the form of systems operations contracts (facilities management). At the widest level—the farming out of business operations to a third party—outsourcing is likely to have a profound impact on organisational structures during the 1990s.

The key software development that has facilitated the downsizing and networking trends has been the advent of *open systems*. There is much debate within the industry as to what *open systems* means. INPUT uses it here to imply the concept of standards—all the technical standards required to allow users to build the systems that they need and want. Consequently, *open systems* used in this sense implies:

- Standards for the portability of software—e.g., UNIX.

- Standardisation of computer systems that allows software packages to run on all classes of the same system—e.g., MS-DOS and Windows on IBM-compatible systems

- Standards for communications

Unprecedented improvement in cost performance is being experienced not just through technology advance, but through highly competitive market conditions engendered by the *open systems* environment.

A major problem for future growth of the industry is that the market is experiencing a downturn in the rate of demand growth for investment in new applications. There thus exists, despite forecasts for increased numbers of computer system shipments, a scenario for industry shrinkage as price/performance improvement outpaces new application demand.

These dramatic environmental changes are challenging the customer services executive to develop new revenue-generating opportunities through careful tracking of user needs and requirements for services. New types of service opportunity, such as supporting desktop services and networks, will increasingly be the focus of the future.

INPUT looks forward to supporting customer services executives and managers in their efforts to profit from these new opportunities and develop significant new revenue streams. INPUT's 1992 research programme will cover the impact of downsizing, networking and outsourcing on customer services, monitor vendors' service strategies, and continue to measure changing customer satisfaction with services. ■

Integrata—A German Company Providing Training Services

Integrata AG is a privately owned German company. The company was founded in 1964 by Dr. Wolfgang Heilman. In 1989 the company changed its status from GmbH to AG and at the same time raised its capital base from DM 2 million to DM 4 million.

Integrata currently employs about 520 staff, of which 135 have ownership of the company. There are no other shareholders.

The company has offices in Stuttgart, Hamburg, Munster, Frankfurt, Munich and a wholly owned subsidiary in

Switzerland, which was organized in September 1990. The company also has co-operative agreements with DVZ Leipzig GmbH and DVZ Berlin GmbH. These companies conduct Integrata's training operations within their respective geographic areas.

Exhibit A

Integrata Five-Year Financial Summary

Year	1986	1987	1988	1989	1990
Revenue (\$ Millions)	18.9	24.6	31.0	39.0	46.1
Annual Growth Rate (%)	37	30	26	26	18

Note: Currency conversion at \$1 = DM 1.68

Source: INPUT

During 1990, Integrata signed co-operation agreements with Hoskyns U.K. and SINDATA in Indonesia. At the beginning of 1991, Integrata established a subsidiary in Austria and has plans to open a subsidiary in Berlin during 1991.

A breakdown of the revenue contribution by service or product delivery mode is provided in Exhibit B.

In its training brochures, Integrata lists 337 courses or seminars ranging from two days to five weeks in duration. The training brochure is divided into three parts:

- 254 seminars aimed at technical professionals and programmers
- 83 PC seminars focussed on the needs of end users
- An additional range of seminars under the heading Academy for Information Technology (A.F.I.). These courses lead to formal A.F.I. qualifications.

Exhibit A provides a five-year financial summary for Integrata.

Integrata is forecasting 1991 revenues at \$55.4 million (DM 93 million), which represents annual growth of 20% over 1990.

The key products and services offered by Integrata are as follows:

- Administrative information systems
- Technical information systems
- Software
- Programming
- Training

Exhibit B

Integrata 1990 Market Analysis by Service Mode (Integrata Classification)

Service/Product Delivery Mode	Revenue (\$ Millions)	Percent
Consultancy	9.2	20
Software Department and Services	19.9	43
Standard Software Products	3.1	7
Training	13.9	30
Total	46.1	100

Note: Currency conversion at \$1 = DM 1.68

Source: INPUT

Continued on next page

Integrata ... from page 3

In 1990, Integrata claimed to have achieved a total of 89,000 participant training days.

The approach to training that has been adopted by Integrata is in two parts:

- The company claims to be a leading provider of training in the German market and claims "achieving a rational and approachable use of information technology" as a goal.
- A special feature of Integrata training is that all trainers are also consultants or managers and are therefore able to bring both practical experience and current issues to bear in each training seminar. When working on projects, trainers impart their theoretical knowledge to the overall benefit of the project.

In positioning itself as a full-service training company, Integrata offers the following services to clients:

- Customised Seminar Development—Training can be directly related to the customer's individual needs and requirements. Seminars can be conducted either at the customer's site or on Integrata premises.
- On-the-Job Training—In recognition that it is often a difficult task to put theory into practice, trainers are available to provide assistance after a training

course has finished and can also work on a customer's project to provide additional assistance.

- Follow-Up Training—Further assistance and follow-up courses are prepared after researching the needs of individual customers.
- Training Consultancy—Customers receive advice about which courses would be most beneficial to their company's needs.
- Management—Integrata provides the customer with access to a training manager who, for example, could spend five days per month working specifically for that customer. Work undertaken could include systematic planning, implementation and control of the customer's IS training needs.
- Computer-Based Training (CBT)—CBT is a service aimed at working closely with customers to provide an optimised CBT training solution.

Delivery of training is achieved through 10 branch offices in Germany, Integrata's wholly owned subsidiary in Switzerland, and a branch office in Austria. Currently, about 90% of training revenues are generated by activities in the German market.

A brief summary of the courses provided by Integrata is as follows:

- Technical courses
 - General courses; introductory courses for experts and IS users
 - Methods, Techniques and CASE; including MENTOR (Integrata's methods package), PROMPT, IEW and CASE
 - Languages and Programming; including COBOL, MVS-DUMP, Assembler, C, and 4GLs
 - DB/DC Systems; including ORACLE, Informix, ADABAS, CA-IDMS, DB2, SQL/DS, IMS and DL/1, and CICS
 - Systems Software; including IBM (MVS, AS/400), DEC (VMS and DECnet), Siemens (BS2000 and EDT), UNIX and networks
 - Information Systems; including office and administration information systems, technical information systems (PPS, CIM), manufacturer-specific information systems (CON-NECT, DATATRIEVE, IBM OfficeVision), SAP software and UNIPLEX
 - Information Management; including data management and management information systems
 - Management, Conduct and Communication

- End-user courses
 - Basics
 - Programming languages
 - Operating systems user interfaces
 - Networks, communication
 - Office communication
 - Word processing
 - Databases
- Academy for Information Technology (A.F.I.) courses
 - Junior programmer—COBOL
 - PC organiser
 - Data processing coordinator
 - Software engineer/analyst
 - Data processing—project manager
 - Information manager
 - DB2—applications programmer
 - 'C' expert
 - UNIX expert
 - OS/2 expert
 - PC-user qualification ■

Sphinx-Level V— An Independent U.K. Training Vendor

Sphinx-Level V is a specialist training company and is part of the Vistec group. The company was formed by a merger of two companies that each had a firm foothold in the UNIX market-place.

Vistec is a large dealer operating within the U.K. in the PC and PC applications market. Annual revenues are about \$78 million.

Sphinx-Level V specialises in providing flexible training solutions covering UNIX/XENIX, Informix, Uniplex, WordPerfect, open systems communication, C programming and project management courses. The company operates primarily within the U.K. but will structure courses for the European mainland on request. At present, only about 2% of training revenue is generated from outside the U.K.

In addition, Sphinx-Level V provides a software distribution service, which accounts for about 10% of revenues.

The reasons for the success of the company's training operation are claimed to result from two key elements:

- Meeting individual requirements within a professional learning environment. This factor

includes a purpose-built facility, located in Maidenhead in the U.K., at which class sizes are kept small enough to allow individual attention and student interaction, and which the company feels is a valuable element of the learning process.

- Ensuring that the training provided is practical—a critical element of the effectiveness of training. Each student is provided with an individual terminal to ensure hands-on experience and the structure of the courses is designed to include a practical approach.

As an alternative to its training centre, the company will also provide on-site training when the number of students involved is sufficiently large.

The range of courses offered by Sphinx is illustrated in Exhibits C to G. In addition to these, Sphinx-Level V offers a WordPerfect suite of training courses.

The duration of courses is between 1-5 days and typical prices range from about \$380 for a one-day course to \$1,725 for the five-day course.

Continued on next page

INPUT

Training ... from page 5

In commenting on the key issues and trends in the training and education market, Sphinx-Level V highlighted the following:

- There is a need for a public body to promote training and stimulate user interest, and, if appropriate, provide assistance with funding.
- It is sometimes difficult to achieve a balance between providing a training service that is profitable and funding the investment required for new courses.
- Training tends to be very much a reactive business rather than proactive and tends to be very much a project-driven activity.
- Companies should focus training on improving the effectiveness of existing skills rather than on training new employees. The reason for this opinion relates to the fact that new employees carry a higher risk factor.

Exhibit C

The UNIX/XENIX Suite

- UNIX/XENIX foundation
- UNIX/XENIX foundation and Bourne Shell
- SCO UNIX installation
- Bourne Shell programming
- XENIX installation
- XENIX administration
- UNIX for DP professionals
- SCO open desktop administration
- SCO ODT developers' workshop
- UNIX market overview

Source: INPUT

Exhibit D

The Informix Suite

- Introduction to relational databases
- Informix—SQL essentials
- SQL for database administration
- Informix—4GL for SQL users
- Informix—4GL programming
- Informix on-line programming
- Informix on-line administration

Source: INPUT

Exhibit E

The Uniplex Suite

- Uniplex word processing, plus and advanced course
- Uniplex spreadsheets
- Uniplex database forms
- Uniplex structural Query language
- Uniplex advance office
- Uniplex administration
- Uniplex configuration

Source: INPUT

Currently, the training revenues of Sphinx-Level V are about \$20 million per annum, excluding revenues from software distribution. The apportionment of these revenues is equally divided, about one-third each, between:

- UNIX
- Programming in UNIX
- End-user applications

Sphinx-Level V has recently started issuing licences to companies to start training centres in Germany and Yugoslavia. ■

Exhibit F

The Communication Suite

- Open systems communication overview
- TCP/IP and UNIX
- X.25 overview and workshop

Source: INPUT

Exhibit G

The Programming Suite

- OSF motif development
- C programming essentials
- Structural query language
- Project management overview
- Software project maintenance

Source: INPUT

Nexor Telub— An Independent Maintenance Acquisition in Scandinavia

On October 28, 1991, it was announced that Nexor and Telub were to join forces. This joining was achieved following the acquisition of Telub by Nexor and results in Nexor becoming the largest independent maintenance company in Scandinavia.

Nexor Service AB, a member of Nexor Gruppen AB, acquired Telub Service AB for SK 125 million (about \$22 million). The purchase of Telub was from the parent company Datagallerian AB, which will acquire 15% of Nexor Service AB in conjunction with the transaction.

Mr. Sten Runden, President of Nexor Gruppen and Chairman of Nexor Service AB, said:

"We're launching a major offensive in the middle of an economic downturn in order to become a nationwide and highly competitive partner for computer companies and users alike."

Nexor Service AB and Telub Service AB both maintain nationwide operations, and as independent players are not linked to a specific computer company.

Nexor Service AB, which has been active in the service industry for more than 20 years, has SK 100 million (about \$20 million) in sales. The company has regional offices in Malmo, Orebro, Gothenburg, Sundsraall and Stockholm, the latter being the location of the company's corporate headquarters.

Telub Service AB has 345 employees, of whom 170 are located in Sweden, and expects about SK 230 million (about \$41 million) in sales in 1991. Telub Service operates in Sweden,

Mr. Sten Runden further said:

"Both companies enjoy a healthy level of profitability. The merger will allow us to increase volumes, which will ensure our long-term profitability and competitive ability."

Negotiations with employee labour unions are already under way. ■

"We're launching a major offensive in the middle of an economic downturn in order to become a nationwide and highly competitive partner for computer companies and users alike."

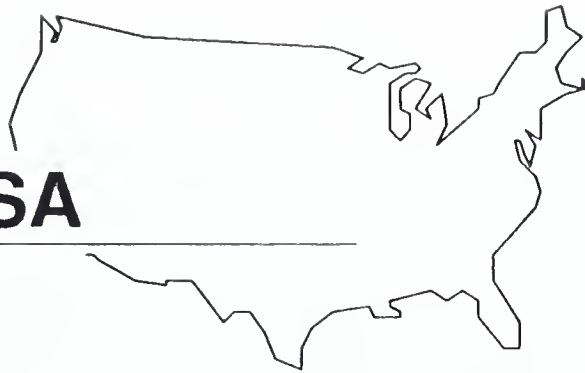
- Sten Runden

Norway, Denmark, Finland and Germany. Headquarters are located in Vaxjo, Sweden and the company maintains regional offices in Malmo, Stockholm, Orebro and Umea.

Acquisitions in Holland too

It has also been announced that Getronics Service is to acquire KH Services, the largest Digital maintainer in Holland. No further details are available at present. ■

News from the USA



Compaq Announces TRW and GECS as Authorised Independent Maintainers

At the beginning of November, Compaq Computer Corporation announced the addition of TRW Customer Service Division and GE Computer Services as authorised independent maintainers of Compaq PCs and PC systems in the U.S.

The Compaq-authorised third-party maintainer program began in 1986 and provides warranty services as well as a broad range of other customised services to Compaq users. TRW and GE join Intellogic Trace as authorised Compaq national service providers with multivendor microcomputer maintenance solutions. ■

IBM Announces the Opening of the Software Mall

In mid-November, IBM opened a new service—Software Mall. Software Mall is an IBM Information Network Service available, for a fee, through IBMLink. The Mall contains electronic outlets or “stores” operated by software vendors, providing services such as bulletin boards, electronic mail, electronic forms, delivery, support and upload/download capabilities.

The Software Mall service is expected to assist independent maintenance organisations and users, who can sign on to the Mall service and get the support information needed. The service will help to decrease the time that it normally takes to call the help desk and try to explain the problem.

On-line screens offer capabilities for ordering information, support or supplies, as well as electronic delivery of any software that can be downloaded from the system. The order form for Software Mall is also available on-line, along with information on the offering. ■

Snippets

- ❖ Infotheek NV, the large PC dealer based in the Netherlands, has gone into liquidation and called in the receivers at the end of October. Infotheek is estimated to be one of the largest PC dealers in Western Europe and the cause of its financial problems is claimed to be economic recession and fierce competition. Quest Automation PLC, a U.K.-based company and subsidiary of Infotheek, has also gone into liquidation.
- ❖ Granada Group PLC, owner of Granada Computer Services, has reported reduced profits for the year ended September 28. Profits for the year were down 53% at £56.9 million (about \$100 million) on revenue that remained flat at £1,392 million (about \$2,400 million). The chairman of Granada Group PLC described 1991 as a very disappointing year, saying that losses in the computer maintenance arm of the company and rental losses in Canada have been compounded by the recession. The Business Services sector, of which Granada Computer Services is part, had sales of £198.8 million (about \$345 million), down 4% from the previous year. Granada now claims that the computer services division is operating profitably after a £16 million (about \$28 million) restructuring programme. Computer maintenance revenues were up 6%, but high overheads increased the losses. John Curran, chairman of the Business Services Division, has denied that the division is for sale and also denies that any discussions have taken place at board level.
- ❖ In the U.K., Sun Microsystems is reshaping its indirect sales channels to relieve the burden on its direct sales force. As part of the reorganisation, Sun has severed its relationships with one of its main indirect sales partners, Frontline Distribution Ltd. Plans are to reshape the whole distribution strategy at the beginning of 1992. As part of the new strategy, Sun will appoint eight Authorised Business Centres to handle low-end products, which will work closely with its own centres on a geographic basis. An objective of the new strategy is to allow Sun's direct sales force to concentrate on customers for high-end products. Technology PLC, based in Warrington in the U.K., will retain its status as a Sun Master Reseller.

Snippets

- ❖ In the USA, TRW Inc. is seeking a buyer for its large independent computer maintenance business. The sale forms part of a major restructuring activity that will see headcount reductions of about 10,000. The independent maintenance arm is not the only business being sold. TRW Information Systems and Services is also selling some businesses. In total, all TRW businesses that are to be sold represented 1990 revenues of almost \$900 million.
- ❖ In the U.K., AT&T/Istel Ltd. is selling its share in Failsafe ROC Ltd., a disaster recovery joint venture, to its joint-venture partner, Comdisco. No further details have been released. Failsafe ROC has an IBM 3081k located in Manchester and an ES/9021 Model 720 located in London.
- ❖ Siemens-Nixdorf has signed a large OEM contract with Ungermann-Bass, a subsidiary of Tandem Computers, Inc. The agreement makes Ungermann-Bass the preferred supplier of local-area network (LAN) equipment to Siemens-Nixdorf.
- ❖ IBM Switzerland has followed other IBM European country market subsidiaries by implementing a joint venture to provide intelligent-building solutions to customers. The concept is that an intelligent building will provide for a total information technology infrastructure, included in the architecture of the building. IBM Switzerland's joint venture is called Intelligent Buildings Systems & Services. Partners in the joint venture are Suter & Suter AG, a construction consulting company, and Intelligent Building Bouygues International SA. Bouygues SA is the Swiss subsidiary of IBM France's partner in a similar joint venture.
- ❖ In the U.K., Olivetti Office Ltd. has launched a margin guarantee scheme as part of a plan to help its dealers through the current recession. The margin guarantee scheme is said to provide a volume-dependent 30% to 37% discount to dealers. The scheme is claimed by Olivetti to provide its 100 premier dealers with more room to negotiate sales contracts—discounts for smaller users while recouping profits from the larger accounts. The reasoning behind the scheme is that dealers are the primary sales channel on which Olivetti depends, since it does not sell directly in these markets. ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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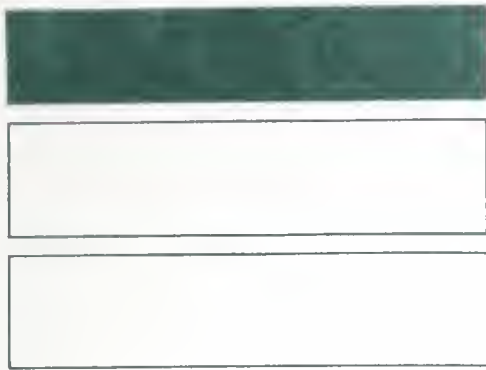
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ITT SERVCOM ACQUIRES BELL & HOWELL TPM...

Although details of the deal are yet to be released, ITT's SERVCOM maintenance division has struck an agreement with BELL & HOWELL to acquire its third-party maintenance business. The merger will expand ITT's service employee base by approximately 1,000 support people.

* * * * *

DEC EXTENDING TWO-HOUR RESPONSE OFFERING...

DEC's announcement of a two-hour response time for its recently released VAX 8800 has been extended to include two other higher-end VAX models -- the 8600 and 8650. The accelerated response commitment is available to user sites located within 50 road miles from a DEC service location in the U.S.

* * * * *

INTERACTIVE VIDEO TRAINING...

A recent survey of major manufacturers revealed that the use of "interactive video" as a training tool is becoming increasingly popular. DEC is currently offering the most extensive courseware to customers with self-paced instruction in a variety of "Generic Courses" on relevant general interest

topics. Combining videodisc presentations of material and the use of "DECTouch" monitors (utilizing resistive membrane technology) the student can view and review course information, and respond to questions appearing on the screen by touch. DEC is currently in the process of developing a more extensive line of this type of video for customer training, and has reportedly been using it internally for some time. Both HEWLETT-PACKARD and HONEYWELL are also internally developing and using interactive video technologies for release in the near future.

* * * * *

DICTAPHONE ENTERS TPM MARKET...

DICTAPHONE Corporation recently announced its entry into third party maintenance with its QSD -- "Quality Service by Dictaphone" -- program. They will initially provide support for PCs, word processors, and micro-driven systems, along with telecom and other peripheral equipment. The program will initially be targeted toward office system vendors without a field service organization of their own, and will tailor maintenance plans to their and their customers' needs. DICTAPHONE's Customer Service division currently has approximately 900 field service employees in 200 locations nationwide.

* * * * *

DATAchecker TO PROVIDE NATIONWIDE THIRD PARTY SUPPORT...

Working with its sister company, National Advanced Systems, DATAchecker/DTS will now offer service on a variety of vendors' equipment throughout North America. DATAchecker/DTS' service organization currently consists of 600 technicians and support people in approximately 41 internationally located service sites.

* * * * *

CIE NAMES SPERRY AS PRIMARY MAINTENANCE CONTRACTOR...

SPERRY's third party maintenance division will be adding CIE products to its list of brands serviced, starting with CIE's new Matrix and Tri-printer lines. The Matrix models CI-300+ and -600+, plus the Tri-Printer-3500 will replace the CI-300 and -600 line. SPERRY personnel will be installing, maintaining, and supporting the line throughout the U.S.

* * * * *

HONEYWELL TO PROVIDE SUPPORT FOR PERTEC LINE...

PERTEC COMPUTER CORPORATION has named HONEYWELL as its authorized U.S. service vendor for the System 3200 and SABRE lines. Under the three-year agreement, HONEYWELL will be providing installation and maintenance support on the machines, including work necessary during the 90-day warranty period, provided the user contracts for service within 30 days of purchase. The onsite service provided by HONEYWELL is available as two-hour, four-hour and next-day response, and is to be available in eight major metropolitan areas before year end.

* * * * *

SORBUS TO MAINTAIN DATASOUTH PRINTERS...

DATASOUTH Computer Corporation has selected SORBUS as its authorized maintenance agent for their line of IBM compatible printer equipment. A 15% discount on SORBUS support is offered to DATASOUTH customers purchasing a 12-month support agreement, within ten days of purchase of their printer. SORBUS will be maintaining DATASOUTH's Systems 34,36 and 38 and IBM 3270 compatible units.

* * * * *

TRW ACQUIRES CIRCLE COMPUTER SERVICES...

TRW has added CIRCLE COMPUTER SERVICES' on-site IBM maintenance and computer refurbishing service to its national field service network. Specializing in support to computer leasing firms, CIRCLE was formed in 1972 by its president, Joseph Conroy. Mr. Conroy will remain director of the corporation's technical and refurbishing facilities in Schaumburg, Illinois.

* * * * *

MORE SPECIFICS OF NEW DEC WARRANTY...

A few more specifics were released on DEC's recently announced one-year warranty offering; particular issues addressed were...

Does the warranty cover any peripherals as well as the CPU?

...No, only the controller is covered under the year-long agreement.

Does the customer have to purchase DECservice in order to qualify?

...No, all purchasers of the unit, regardless of their choice of post-warranty coverage, qualify for that level of support for their first year of service.

Is the operating system software also covered for one year?

...Purchased software retains the same warranty coverage as before the new offering was introduced.

* * * * *

CDC TO MAINTAIN DEC SOFTWARE...

A newly released service offering by CONTROL DATA CORPORATION's Professional Services group provides users of DEC operating systems and product set software with both up-dates and remedial maintenance on their systems. In

addition to on-site service and telephone support, training and consulting assistance will be available. Currently the support package is available in three cities nationwide -- Boston, Washington DC, and Chicago -- and geographic coverage is expected to expand as needs dictate.

* * * * *

DG EXPAND SOFTWARE SUPPORT STANDARDS...

Current users of DATA GENERAL's Software Product Service Agreement will now be supported under an enhanced package -- Support Plus. The new standard of on-site service (previously available as an option) and access to 24-hour on-line information on DG's hardware and software systems will be available automatically to current users; new subscribers will be able to obtain the extended support for an average cost of \$700 (Eclipse MV with AOS/VS).

* * * * *

FLEXIBLE FEE PC MAINTENANCE OPTIONS...

A survey across top vendors revealed that only one TPM company currently offers flexible pricing programs to its PC customers. CDC's "Flexible Fee" provides standard maintenance for the customer for a period of a year at fees reduced from straight contract maintenance prices, with the agreement that additional fees as scheduled will be levied per incident. This "Flexible Fee" program allows users to choose an option which lies between the security (and expense) of a full-coverage service contract and the gamble of paying for maintenance on a per-call basis.

* * * * *

PC WARRANTIES: TANDY vs AT&T...

Both AT&T and TANDY Corporation are currently providing a 90-day warranty on their comparable PC models (the ATT-6300 and TANDY's 3000, both with hard disks). TANDY offers warranty work through its dealers, providing depot repair for the 90-day term; should the user contract for on-site post-warranty support at the time of purchase, TANDY will upgrade the depot service to on-site work during the warranty term. AT&T's 90-day warranty coverage is provided through mail-in service for their 6300 unit; it is reported, however, that warranty support on their upscaled 6300-plus is performed on-site, with a coverage term of one full year -- one of the most comprehensive warranty coverages offered in the PC market. Fees for contracted post-warranty warranty runs as follows:

	on-site	depot
	-----	-----
AT&T 6300-003 = 512K memory		
1.2MB diskette	\$43.50/month	\$28.30/month
20MB hard disk		
 TANDY 3000 =		
512K memory		
360KB diskette	\$43.50/month*	\$21.60/month*
+20MB hard disk	+\$15.90/month*	+\$ 7.90/month*
	=\$59.40 total	=\$29.50 total

*Tandy pricing quoted as annual charge; these figures are the AMC fee divided by 12 months.

* * * * *

COMDISCO: SALES AND SERVICE OF USED IBMs

COMDISCO Incorporated is an Illinois-based remarketer of used IBM computer equipment, specializing in large systems and magnetic storage devices.

Dealing in the sale, lease, and refurbishment of these units, the company also acts as an IBM maintenance broker, offering support from IBM personnel at up to 20% discounts on IBM contract prices. This service is available both to systems owned by the user or leased from COMDISCO. The company presently has 16 locations in the U.S. and an additional 10 worldwide.

* * * * *

DATA TECH/RELIANCE ADDS TO REFURB CAPABILITIES...

DATA TECH/RELIANCE has recently announced the addition of QUANTUM disks to its list of refurbished products. The 520, 530 and 540 models are used in ALTOS, ALPHA MICRO and DEC's PDP and MicroVAX systems; refurbishment of the units was previously available only through the manufacturer. All reconditioning of the disks will carry a 180 day warranty.

* * * * *

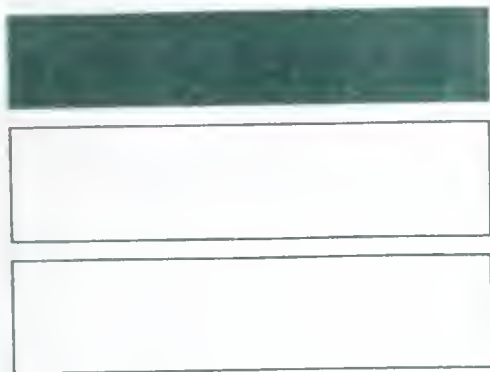
MORE ON DISK REFURBISHMENT...

A follow-up to the January and February list of companies providing disk reconditioning...

TRANS DATA CORPORATION	-----	Belmont, CA	(415) 591-5705
PERIPHERAL SERVICE PRODUCTS	-----	Carlsbad, CA	(619) 438-8381
H & M DISK DRIVE SERVICES	-----	Anaheim, CA	(714) 385-1146
PREMIER COMPUTER CORPORATION	----	Minneapolis, MN	(800) 432-3475
RESTORR MAGNETICS	-----	San Jose, CA	(408) 946-9207

* * * * *

...INPUT's SERVICE UPDATE is a monthly publication highlighting industry issues of interest, as reflected by clients' inquiries to our hotline staff. To learn more about what we have to offer, call our Mountain View, CA office at (415) 960-3990 8AM to 5PM PST, or leave a message with our VoiceCom message service at (415) 544-2338.



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Supermini User Service Needs Continue to go Unmet . . .

While superminicomputer vendors improved system reliability in an attempt to meet the extremely high system availability requirements of their users, user dissatisfaction with many critical service components continues to effect overall satisfaction with supermini service and support. Initial results of the 1986 superminicomputer user service requirement analyses indicate that, according to users, vendor performance in the areas of engineer skill level (for both hardware and software) and spare parts availability continue to miss the mark. The inability of supermini vendors to satisfy user needs in these areas have opened the door to third-party encroachment as the TPM market continues to target this area as a high-growth market.

INPUT will begin shipping the results of the superminicomputer user survey to clients of the Large Systems and Small Systems modules in June. Manufacturers analyzed include Concurrent Computer, Gould, DG, DEC, AT&T, Prime, IBM, Tandem, and HP.

MDS Service Becomes Momentum Technologies . . .

MOHAWK DATA SYSTEMS' Service Division recently announced their purchase from MDS/QUANTEL, manufacturer of QUANTEL business systems. Maintenance and support will be provided by MOMENTUM SERVICES, one of the four divisions under MOMENTUM TECHNOLOGIES' corporate administration (including MOMENTUM Systems, Credit Corporation, and Manufacturing groups), focusing on providing complete "single-source service for a wide variety of computer and communications equipment" and networks. Based in Parsippany, New Jersey, MOMENTUM SERVICES provides nationwide support through their 800-member service staff.

"Exclusive" Service and Warranty Agreements . . .

A recent survey of leading third-party maintenance vendors showed little standardization in the treatment of "exclusive" service arrangements with manufacturers. During the warranty period of the product, all TPMs require compensation from the manufacturer, since the end user receives support at no charge during this time. Some TPMs require that the manufacturer compensate them on an hourly charge (usually the prevailing T&M rate), or fixed price per incident basis. Other companies require that the manufacturer purchase "service contracts" up front covering support for the duration of the warranty for each product shipped. Most TPMs negotiate the type of compensation they are to receive when they first approach (or are approached by) the manufacturer, thus, no TPM utilizes one warranty-compensation technique exclusively. In the past, TPMs were required to provide financial compensation to the manufacturer for service performed after the warranty (in a sense, a "finder's fee" for new business). While this practice still continues, growth in the stature of the TPM industry has encouraged some of the larger TPMs to drop such a requirement in "exclusive" service agreements, reasoning that the TPMs' service capabilities are benefit enough for the manufacturer.

Dealer Perks for TPM Contract Sales . . .

Policy regarding compensation packages offered to dealer/distributors for sales of third-party maintenance contracts shows little consistency across top TPM vendors. Although the most common form of compensation is straight forward commission on the sale of each contract, the level of additional incentive varies widely.

DEC's "Service Sales Agent" program offers the most comprehensive package in addition to commission on first-year contracts. Sales assistance by way of assignment of a DEC account manager, available for coordination and support of the dealer's force, is provided along with tangible sales tools, including sales training and DEC service brochures.

MOMENTUM (formerly MDS) provides a variable commission based on the level of service contract sold (i.e., higher for standard service and lesser for basic or depot contracts) paid as a percent of the sales quarterly. In addition, the dealer can earn additional incentives at year end by exceeding a pre-determined sales quota.

HONEYWELL's "Service Sales Representative" program allows dealer/distributors (and eligible manufacturers) to act as a HONEYWELL TPM contract sales agent, providing comparable first-year contract commission incentives.

TRW reportedly provides no compensatory arrangements to dealers for sales of TPM contracts, but rather works in an arrangement where dealers purchase any contracts to be included in the sale directly from TRW; no commissions or compensation to the dealer are involved.

Providing Support for Major Accounts . . .

Providing support for a customer with a considerable installation, whether the machines are installed at a major single site or at installations across the country, requires special consideration. A look at contending manufacturers' policies regarding such customers revealed varied methods of handling the concessions and coordination of the accounts.

DG's "Cluster Discount" program provides large installations with scheduled discount on contract pricing, provided the machines reside at a single site. DEC provides allowance to large installations by way of a "Major Site Credit" program, basing the amount credited on the total monthly contract charge (for monthly maintenance fees totaling \$8,000-16,000, a 5% credit is allowed; \$16,500-25,000 is refunded 15%; over the \$25,000 mark, customers receive a 20% credit). To qualify for the credit program the units involved must be installed within a five-mile radius of each other and be covered on a single maintenance contract.

GOULD provides special consideration for their national customers through assignment of a "national accounts manager" who provides a single contact for the customer for any service or sales questions or problems that may arise. Any discounting provided to the customer is negotiable between the two companies.

PRIME's policy regarding such large, national accounts is similarly situational regarding cost savings--an installation with a "master contract" including all units involved can be provided with discounts negotiated by size. Similarly, an account manager is assigned to handle all service issues encountered by the customer.

IBM's Test on Volume Discounts . . .

A recent query posed to IBM regarding their policy on maintenance discounting brought up their oft-questioned "EMA" (Enterprise Maintenance Agreement). IBM reported that the EMA arrangement was a test (accounting for industry confusion over inconsistencies in the program's availability) and now has been completely withdrawn from the marketplace. Accounts involved in the original test will be served under the discounted agreement through term. The program is now going through the evaluation process and IBM reports no current offering of volume discounts beyond those scheduled and published for their PCs.

T&M Specifics . . .

Confusion over the defining parameters of time and material charges for IBM and NCR prompted a question regarding the actual billable time of a call. IBM bills their per-call customers for travel time from point of origin to the customer's site, and actual time to repair--i.e., "portal to portal." NCR's policy is not quite so clear cut--if the customer is under a maintenance contract but requires per-call service outside of their principle coverage, charges begin to accrue as the technician leaves for the site (portal to portal is billable). If the user is not covered by an NCR contract but is a per-call customer in the usual sense, then they are charged at T&M rates for only the actual time to repair. In addition to this, a travel expense is levied as a flat rate by 20-mile zone radiuses. NCR minimizes the expense for customers by pro-rating the total travel expense between the number of customers' sites visited for maintenance on any given trip.

Government Discounting TPM . . .

Discounting maintenance pricing from public commercial rates for government contracts has been a topic of interest throughout the past month. Of the top third-party maintenance vendors, the difference in the amount of this discount granted to GSA customers runs between 3-4% on average--TRW cutting commercial rates by 6.35%; SORBUS discounting prices as low as 10% for government accounts.

IBM's "TPM" Announcement . . .

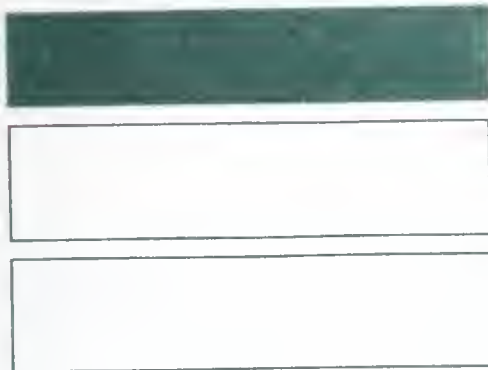
Early this month IBM announced their agreement to offer support to non-IBM personal computer products. The coverage (contractable only as an amendment to IBM on-site repair) includes only the removal/replacement of another vendor's unit causing failure of the IBM system under contract; no repair or problem diagnosis of the foreign machine will be provided. The limited number of non-IBM products which IBM has previously agreed to provide support for (e.g., certain EPSON printers) are not eligible for this support which can be amended to the IBM PC service contract for a \$30 per system unit annual charge.

UNIX Hotline Support . . .

An inquiry as to the going rates across top manufacturers for telephone support for UNIX software revealed that HP is the only contender currently offering such service. Neither IBM nor SPERRY make hotline phone support available to customers, but DG has plans to provide the support in the near future. The service provided by HP (for users of the integral PC) is available at a \$45 per call fee.

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Minicomputer User Service Market Demonstrates Marked Inconsistency . . .

Perhaps a reflection of the squeeze that traditional minicomputer products are experiencing as manufacturers are introducing powerful, low-cost mainframes at the upper end and increasingly sophisticated supermicros at the lower end of their lines, minicomputer users are reporting inconsistent service from their vendors. While certain vendors, such as Hewlett-Packard, are delivering service at levels that meet the overall requirements of their users, other vendors are not faring so well. Moreover, the range of user requirements for service in this market is expanding rapidly, making it much more difficult for service vendors to offer service at a level that satisfies the majority of their users at an acceptable cost.

INPUT will begin delivering the first analyses of traditional minicomputer products service in July.

IBM Announces Increased Service Offerings On Non-IBM Peripherals . . .

IBM now lists both carry-in depot and on-site exchange and repair prices on a select new group of PC-compatible peripherals. The support will be provided through IBM's national service fleet and network of IBM Service/Exchange Centers, and pricing is subject to discount under the IBM Volume Maintenance Agreement. Here is a partial list of products now serviceable by IBM support personnel; other brands include AST, Emulex, Amdek, DCA...

<u>VENDOR</u>	<u>PRODUCT</u>	<u>SUPPORT*</u>	<u>PRICE</u>
Hewlett-Packard	Thinkjet Printer	IOE	\$130
		CCE	\$115
Epson	FX100+ Printer	IOE	\$120
		CCE	\$105
Okidata	ML931 Printer	IOE	\$190
		CCE	\$130
Hayes	Smartmodem 1200	IOE	\$110
		CCE	\$95
Tecmar	PC Host Card	IOR	\$55
		CCR	\$50
Hercules	Color Card	IOR	\$45
		CCR	\$35

*IOR = IBM on-site repair
 CCR = Customer carry-in repair
 IOE = IBM on-site exchange
 CCE = Customer carry-in exchange

Vendor Specifics on Spare Parts Deals . . .

Policies that affect the convenience of purchasing (or, in turn, the necessity of stocking) spare parts by end users can reflect a vendor's philosophy on maintenance and where the responsibility should lie. Here is an in-depth look at some of the top mid-range manufacturers' approaches to the specifics that impact a user's ability to procure spares...

HEWLETT-PACKARD, in conjunction with their "Cooperative Support Program," is among the vendors making it relatively easy on customers to purchase spares for their units. Users participating in the Cooperative Support Program are provided, as part of that service, a spare parts catalog to consult when planning or placing orders and a toll-free hotline by which orders can be placed. The catalog is also made available to distributors, dealers, and TPM parties joining the program. All spares carry a warranty against defects in materials and workmanship for a 90-day period, and various discounts, based both on dollar volume per order and unit volume per item, are available.

Of more specific conditions of the sale, there is reportedly no minimum charge per order required--emergency expediting is available (fee dependent on circumstances), customers pay freight on the orders, and restocking charges may be levied on returned spares.

DEC has a similar program for self-maintaining customers, and likewise provides a free catalog of spares to members, including third-party maintenance companies. Orders can be placed via a toll-free number. Discounts are available under DEC's Standard Volume Agreements for orders exceeding \$1,000 list. Participating "Shared-Maintenance" customers with critical down situations are guaranteed response on the status of their order within 3 hours and delivery within 24 hours when part is in DEC stock. A \$100 fee is charged for the expediting, however, and restrictions on use (both in frequency and size of order) apply. Normal delivery times vary from 15 days up to 6 months, part specific. Warranties are provided on all spares ranging from 30 days to 1 year.

DEC provides delivery F.O.B. DEC plants, but can arrange to prepay for shipment and bill if customer prefers. There is no minimum dollar requirements on spares orders.

GOULD also publishes a spare parts catalog at no charge, but distributes it only to direct customers and field sales representatives. A toll-free number is accessible to place orders, with an average delivery time of 120 days. Discounts based on unit volume are available, up to 10% on unit price for 100-plus units purchased on an order. Emergency expediting at a 10% (or \$100, whichever is greater) fee is offered for critical situations--24-hour turnover is promised.

As most other vendors, Gould warrants spare parts for a 90-day period. A \$100 minimum restriction is placed on orders and restocking charges restrict the return of ordered parts.

DATA GENERAL had provided users with both a catalog and toll-free hotline for spares ordering up until 1983. Currently, orders are placed by calling DG's main office for assistance. No discounting is offered on spares orders, which must be of \$50 minimum amount to be filled, and the parts are under warranty for only 30 days. Policy on emergency expediting is not firm: overnight shipment will be provided if the part is in stock with reportedly no extra charge. Average delivery time on spares orders is 30 days with DG prepaying then billing customer for the freight. Restocking charges are set at 15% of unit price for spares returned with a reorder of like parts; 30% is charged if there is no subsequent reorder.

HONEYWELL reports that they are currently restructuring their spare parts program, but currently provides no catalog to facilitate spares ordering. A toll-free number, however, is available to provide assistance in ordering, and delivery can be expected within three to four weeks if part is in stock. Delays of up to 26 weeks are possible if the parts must be special

ordered by Honeywell. All parts are under warranty against defects for 90 days.

Emergency expediting is handled on a case by case basis, minimum order amount is \$100, and shipping is pre-paid and billed to the customer. Honeywell will only levy a restocking charge if the returned part was of special purchase.

PRIME has a nebulous policy regarding the sale of spares to users. A catalog is published but is for internal use only and provides no toll-free access to the ordering of spares. Parts are warranted for 45 days and delivery time on orders runs an equal month and a half. Ordering policy requires no minimum purchase per order and emergency fulfillment is available with no specific charges associated with the overnite turnaround. No discounts are offered to spare parts purchasers.

Repair to Purchase Comparison on Boards . . .

A recent inquiry across three manufacturers' depot repair rates for a range of boards revealed the following:

	<u>List Price</u>	<u>Depot Repair Rate</u>	<u>Maintenance as Percent of Purchase</u>
CPU Board:			
DATA GENERAL	\$4,242	\$270/incident	6.4%
CONCURRENT	\$8,338	\$700/incident	8.4%
Memory Board:			
DATA GENERAL	\$3,800	\$298/incident	7.8%
CONCURRENT	\$9,000	\$405/incident	4.5%
Peripheral Controller Board:			
DATA GENERAL	\$3,660	\$239/incident	4.5%
CONCURRENT	\$9,775	\$450/incident	6.5%

PRIME's rates for repair were also in question--they provide no service by carry-in or mail-in depot repair.

Hotline for Hardware Support . . .

Telephone consulting support availability has become a standard feature of many vendors' normal hardware maintenance contract coverage. But, of manufacturers surveyed--including DEC, Data General, Gould, Honeywell, and Prime--one will provide users with the service without the purchase of a full on-site service contract. Hewlett-Packard's "Technical Assistance Service" (TAS) agreement offers self-supportive users technical backup through phone-in consulting, available between 8 A.M. and 5 P.M., Monday through Friday, with coverage extensions to 6 and 7 days per week, 16 to 24 hours daily; uplifts range from 10% to 40%. TAS also provides the customer with a Hardware Subscription Service with manual updates and "Service Notes" and "Computer Maintenance" newsletters notifying of changes pending and procedure revisions. On-site service calls are not a provision of the TAS agreement, but, when provided as needed on a per-call basis, TAS customers receive improved response times at standard per-call rates.

Support Offered by Modem Manufacturers . . .

Interest last month in service delivery modes of telecom vendors, especially manufacturers of modems, prompted the contact of the following companies about their support offerings:

GENERAL DATACOM provides users with repair service through both yearly contractual agreements and on a per-call basis. Service is performed by GD personnel on customer site and is contractually available eight hours, Monday through Friday, extendable up to "24/7" (24-hour/7-day) coverage.

RACAL-MILGO will also provide on-site support to users and offers a depot support option. Contract customers can choose 8/5 coverage over the year term or secure 24-hour/7-day coverage on on-site repair. Discounts for large single-site installations are available. Depot service is provided as repair or replace (at R-M's option) of the defective unit. Non-contract customers can requisition a R-M field engineer at current time-and-material rates during prime hours.

GANDALF also offers on-site and depot support via yearly maintenance contracts and will provide non-contract service at an hourly rate. On-site repair can be contracted as 8/5 or 24/7 coverage. Depot service is delivered through mail.

CTS DATACOM equipment can be serviced by depot repair at the manufacturing site or maintained at the user site through contractual coverage with CTS dealers/distributors. CTS' depot support pricing is structured on a per-incident basis.

DATAGRAM's maintenance provision policy is at this time in a state of flux as the vendor closes a TPM support deal. DATAGRAM modems are currently supported by extension of the manufacturer's warranty, providing defective units with a replacement. Customers not desiring to extend the year's warranty can receive repair of their units on a per-incident basis through Datagram.

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Vendor Data on Over 100 TPM Companies Analyzed . . .

Collection of data--including support specifics, service revenue figures, and organizational information--for INPUT's 1986 Service Vendor Profiles--Third-Party Maintenance report has been completed, and delivery of the first profiles of the directory can be expected in early August. More than 100 companies nationwide have been interviewed for the directory with 20 industry leaders targeted for in-depth corporate and strategic discussion in the report. A number of these top 20 vendors are slated for inclusion in this first set of profiles and additional shipments can be expected by clients as the profiles are completed.

Single Source Support by Vendors . . .

Learning to accommodate the needs of clients with mixed-vendor systems, while at the same time gaining service revenues at the expense of these competing vendors, many manufacturers are formalizing what are in essence, third party support offerings to their customers. Although the willingness to maintain other vendors' equipment is the basis of such "maintenance management" arrangements, most manufacturers providing the service prefer to view it more as a "full support concept" than a marketed maintenance offering...

AT&T, in an effort to expand their range of services to major business customers, announced the provision of Integrated Service Management (ISM) to select accounts mid-year 1985. ISM is based on the single-source approach to large installations, offering select customers one point of contact for the design, administration, and maintenance of multiple vendor systems. Project implementation, technical consulting, and site operations management can be provided, and although AT&T has been quoted as . . . "not in the third-party maintenance business," ISM by definition includes maintenance, on select case-by-case basis, of customer-owned non-AT&T equipment. The offering is not strictly defined by AT&T, and its availability is a function of the individual account and customer.

DATA GENERAL's term, Maintenance Management, defines more a softening of corporate philosophy than a marketed service product. Previously having been more exclusive in support provided, DG will now offer assistance to customers who adopt non-DG units into their systems, either through

direct service on the machines, or by way of coordination of recommended support vendors' service. Taking a passive approach to any marketing of Maintenance Management, the service is provided to customers specifically requesting such support, and decisions on availability are situational, as well as dependent on volume.

CDC is a third vendor approaching field service with the single source concept in mind, but with a more defined offering marketed as a formalized support product. Single Source Service, a comprehensive hardware and network maintenance program, provides mixed-vendor site managers with one point of contact for all system component needs in both remedial and preventive maintenance. As outlined in CDC marketing literature, the offering appears to be more focused on actual physical maintenance of systems than on the consulting and administration aspects of system management, as is AT&T's ISM, for instance. But, CDC's competitive prominence in the third-party maintenance arena legitimizes their emphasis on this aspect of maintenance management, allowing them to draw upon the reputation and experience of their TPM division in this offering to CDC manufactured equipment customers as well.

Other manufacturers providing forms of single source maintenance to users include DEC, Honeywell, and NCR. IBM's recent concession to (albeit limited) third-party servicing as officially announced last month, reinforces the industry trend toward accommodation of the market demand for more flexible support from system vendors.

DEC to Supply Free Support for Memory . . .

DEC has recently announced a plan to offer on-site service at no charge for memory units added on to VAX 8600 and 8650 systems. An effort to make DEC-manufactured incremental memory products more economically attractive to system owners, the support is made available to any 8600/8650 users who have contracted with DEC for on-site service on the VAX unit.

Compensation for the Weekend FE . . .

Four manufacturers were recently surveyed as to their FE pay practices for weekend work, both scheduled and on-call. These variations on the "time-and-a-half" pay standard were found...

MEMOREX offers no differentiation from regular-hours pay to their FEs working by schedule on Saturdays and Sundays. FEs working more than the normal 40-hour week are, of course, compensated through receipt of overtime pay at time-and-a-half that of their normal rate.

DATA GENERAL reportedly does not schedule FEs for Saturday and Sunday work, but the technicians can be on-call over weekends. Time-and-a-half is paid to FEs who are called out to service on Saturdays; double-time compensates for Sunday work.

NAS utilizes shift-differentials in the compensation of their FEs. If an engineer is scheduled to work on a weekend day, s/he receives their regular hourly rate of pay plus an added amount for working that shift. Should the FE be on-call and have to go into the field over a weekend, the rate of pay increases as if s/he were performing overtime work--time-and-a-half compensation is offered for work on Saturdays and double-time is paid on Sundays and Holidays.

CDC also allows for shift-uplifts in their FE pay structure, offering a percentage salary increase for any FEs scheduled for "non-standard work weeks." If the engineer is regular Monday-through-Friday personnel, but is on-call over any weekend, the engineer is compensated through time-and-a-half for Saturday's work and at double their wage for time on Sundays.

Service on Discontinued Displays . . .

Where does a customer look for support of a unit once production of that unit has been halted? A recent inquiry as to the support policies of some of the top workstation manufacturers showed few stringent guidelines on the issue, but ample coverage of service availability as well as spares to satisfy most users...

AT&T reports a policy of a five-year span of active responsibility for their workstations, as well as equal coverage on telecomm and other computer products. Support is made available for that five years beyond the date of product withdrawal, and spare parts for the unit will remain in stock during that period.

The HARRIS Corporation has set practice relevant to the maintenance of such units only as their retained-inventory policy applies. HARRIS will keep parts for a minimum of seven years after purchase of the component; it follows that any product line discontinued would still have some spares available for a maximum of seven years within which this parts policy applied. As far as actual situations regarding the subsequent service of discontinued units, the company reports that such products have been known to be retained under HARRIS care for four or five years beyond line discontinuance.

ITT COURIER, another leader in the workstation market, practices a seven-year responsibility to discontinued product users. The company promises support availability, as well as spare parts stocking for the full seven years after the station's removal from the market.

TELEX reports no stated policy regarding either parts retention for units withdrawn from the market, or the availability of their service beyond the honoring of the term of any current maintenance contracts out on the units. Although the company offers no defined promise to retain service availability, TELEX reports a lenient attitude toward the retention of discontinued-units' parts, making continued service on the products possible, and probable, in such situations.

Warranty Terms for Leading Small Systems Defined . . .

With few exceptions among the top mini and PC manufacturers, a three-month warranty period is often assumed as the current standard offering. A closer look at four of the top manufacturers' specific terms show some variation on this theme...

DATA GENERAL is most straight forward in their warranty offerings--a 90-day period of coverage is provided to customers of all of their small systems, including the Eclipse, the Nova, and their DG desktop models. Support for the units in need of service during those initial 90 days of use is delivered on the customer's site and covers the unit configuration as purchased.

WANG's micro units, including the Professional Computer (PC) and Professional Image (PIC), are likewise covered for 90 days, but service delivery for their warranty support is through mail-in depot repair. Support within these 90 days can be upgraded through purchase of an on-site service agreement at the time of unit purchase. Wang's VS minicomputer is also warranted for a 90-day term, but service for this system is delivered on-site. Both machine types are covered for repair in the configuration as purchased.

IBM's policy is somewhat less consistent in their warranting of small system products. While the original PC and the PC-XT carry the standard 90-day customer carry-in warranty service (upgradeable to on-site service through purchase of the associated option), other IBM micros have extended warranty provisions, including the laptop unit recently released. This portable PC Convertible and the PC-AT, as well as the new expanded-memory 3270 PC, all are provided with free warranty service for a period of one year through customer carry-in service. Additionally, the new PC-RT introduced earlier this year is warranted for this year term, but with on-site service provision. The unit's warranty condition includes not only the base unit as purchased, but all optional features purchased and installed with the RT. The RT's coverage exceeds even the warranty offering on IBM's popular mini, the System 36, with its 90 days of free on-site service allowed for the CPU.

DEC offers the standard type of warranty coverage on their comparable small system PDP with an on-site service provision for a 90-day term. DEC's policy is somewhat less consistent regarding the support of their micros, the terms of the warranty provided being dependent upon type of buyer. In 1983, DEC adopted a policy upgrading support offered to the retail purchaser who, upon purchase of any PC units--including the Rainbow, DECmate II, and Professional Computer (PC)--were eligible for a full year's warranted service provided on-site. This coverage includes not only the PC unit itself, but additional options or add-ons purchased with the system. Corporate buyers continued to receive the standard 90-day warranty, but likewise received the advantage of warranty service performed on their site.

Increasing competition in this lower end of the market is dictating such increases in vendors' concerns over product differentiation, warranty support being a prime target. As more PCs hit the market, manufacturers are turning to increased service offerings to give their product the competitive edge.

Profile on Sun Microsystems . . .

The first of this month saw Sun Microsystems' Field Engineering Department emerge as a separate division of the corporation. Previously combining their sales and service organizations, the Mountain View-based manufacturer has plans to strengthen their FE force in order to provide the needed support to their increasing customer base. Sun's tech support group is currently staffed by 220 service employees working out of 35 separate locations. Each office carries limited sparring levels and the central service site in Milpitas, CA operates as the main parts depot. Also, the location of their HP3000-based dispatch system, the company plans to expand their system's utilization to accommodate a centralized parts management program, additionally.

Sun currently employs a total of 50 field engineers nationwide, with an equal number dedicated to technical support at Sun service locations. Sun's field service organization, as a newly established division within the corporation, hopes to double its FE ranks within its first year of operation as a separate entity.

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Software Users Report Low Satisfaction with Vendor Support . . .

Initial results are being tabulated for INPUT's 1986 Software Service and Support User Requirement report and samples indicate a widespread dissatisfaction with the software support being supplied by their vendors. Common comments from actual users berate the usefulness of documentation on many of the packages under study, and claims of poor response from support personnel, whether on-site or via hotline, are prevalent among the sample responses--few vendors' overall ratings are at customer-acceptable levels.

Ten of the top application and utility software vendors' support performance will be analyzed and the first five vendor modules are to be shipped to clients early next month. This initial shipment will include DEC, Candle, NCA, MSA, and Data General software user results.

Sperry Announces Free TPM Support . . .

In a new, limited-time service offering on the market, SPERRY's TPM division is providing potential customers with special incentive to give CUSTOMCARE a try. First-time customers of SPERRY support are provided with service during the first and thirteenth months of their term free of charge. The offer is part of a national blitz by SPERRY marketing and is believed to be the first offer of its kind by a major player in third party maintenance. The relatively young TPM organization is hoping to entice a ripe group of newcomers and borderline prospects into the TPM marketplace with the promotion.

Hotline Support Now Provided for Businessland Customers . . .

Billed as the "Total Support Solution Package," Businessland Inc. is now offering toll-free telephone support to both corporate and individual clients, along with an array of newly introduced services as part of the package. Utilizing an annual contract fee structure based on a maximum number of calls covered, fees for the package range from \$150 for 10 calls yearly, up \$1,200 for corporate usages of up to 100 support calls within the term. A bi-monthly newsletter, access to an electronic bulletin board, and on-site or depot service, and training is additionally made available to subscribers of the new offering.

T&M Fee Structures and Billing Practices . . .

Many of the industry TPM vendors and manufacturing companies set hourly T&M rates at varying levels based on machine type and associated complexity of support on the unit. Select manufacturers and TPM leaders were surveyed as to their methods of per-call billing and administration of individual call reporting.

Of manufacturing vendors contacted, DATA GENERAL and WANG were found to ask no differentiated fees for hourly work; DG providing service at \$95 prime, and at \$110 during non-prime hours, with a two-hour minimum charge per call reported. Wang's T&M support is charged for at slightly higher rates of \$116 prime/\$150 non-prime, with minimum billings running between two and six hours by mileage zones.

HEWLETT-PACKARD differentiates between major system support and peripheral workstation service in their T&M structure, with rates at \$130/\$166 for systems and \$92/\$118 for workstation calls. Field personnel reports service time spent on each unit serviced during a call, recording labor by model number of the machine serviced--appropriate billing is thus assured, as time per unit serviced is calculated according to FE report.

GE utilizes similar categories in their T&M rate structure, specifying systems work at \$95, and datacomm equipment and PC repair at \$85. Non-prime and Saturday calls are charged at time-and-a-half; Sundays and Holidays at double time. Billing procedures follow similar course to those outlined for HP. Each unit's service time is written up individually by the addressing FE and billing as appropriate follows.

IBM also classifies varying levels of unit labor with three distinct classes of hourly rates in effect. Ranging from \$88/\$101 for Class I "baseline products" (including office products and lesser peripherals), up to Class III ("complex" controllers and processing systems). Minimum charges per call range from one to two hours. As far as billing and reporting procedures go, IBM releases no further information than the actual rate structure.

CDC, in their TPM support, defines three levels of T&M charges and reporting is done in the standard manner (time and unit worked on) for billing purposes. The first class recognized is that of "non-standard" equipment, or those units, usually being serviced as part of a supportable system which CDC does not as standard practice support. These types of machines' and peripherals' service is charged at \$160/185 hourly. CDC's Class II at \$132/\$152 hourly, includes larger IBM systems, as well as various PCs, are considered Class III and charged at \$90/\$110 per hour for support.

SPERRY, although reporting no set T&M fee structure (i.e., individual area managers have some leeway in the setting of appropriate fees for the situation) can be quoted as providing three levels of hourly support ranging from micro and peripheral service, through mainframe support. FEs fill out service "tags" for each call, defining time spent on machine indicated. Tags proceed through billing departments and invoices for payment distinguishes between rates as negotiated.

TPM leaders TRW and SORBUS both subscribe to more involved hourly rate structures. SORBUS provides five varying levels of billing on per-call service with categories specifying terminals and video equipment, minis, lesser mainframes and associated peripherals, complex mainframe systems, micros and small business systems, and unit-record service. Specific rates and FE reporting procedures are not currently available.

TRW provides differing rates for smaller products (office products, calculators, etc.) versus larger units and systems (\$68/\$94 through \$104/\$143, respectively) and provides a completely separate structure for T&M work on IBM manufactured products. Similar methods of FE call-reporting are utilized to simplify billing procedures in cases involving the service of differing categories of machines.

Software Consulting by Mini Manufacturers . . .

A recent inquiry as to current rates and specifics of the software consulting policies of five leading minicomputer manufacturers revealed a range of vendor attitudes toward the service and varying levels of availability of support to users.

HEWLETT-PACKARD provides software consulting services to customers at differing levels of engineering expertise and services are charged for in one-day intervals. At the lowest level of assistance, an associate software engineer comes to the user site to offer consultation at \$675 per day. An engineer specializing in the specific software problem area can be contracted at \$1,000, or at an intermediate level, a generally knowledgeable SE can be provided at \$825 daily. These fees incorporate travel expenses for the SE's trip to the installation and HP offers no discounting on the charges rendered.

DATA GENERAL will provide access to their SE expertise at hourly rates ranging from \$85 to \$135. Actual fee is dependent upon the project, considering time the entire task will require and the level of knowledge the work entails. In this way, there is some consideration of expertise built into the rate, but it is not accountable directly as HP's structure dictates. The SE's travel expenses (such as hotel, flight, etc.) are the responsibility of the customer and DG defines no specific discount schedule associated with the consulting service.

WANG customers may elect as an alternative to their designated software service programs to request on-site software consulting as needed through WANG's Per-Incident Assistance provisions. Hourly advice from a WANG software support analyst is provided at a \$108 per hour rate with no standard discounting available. Minimum charges per call are dependent upon customer-site distance from the SE's WANG office, and range from a 1 hour minimum for up to 25 miles of travel, through 4 hour charges when the SE travels over 75 miles.

Software consulting by GOULD is not what they consider to be an "advertised offering," i.e., the support is available when requested, but work of this kind is not sought out. The term upon which they offer software analyst support is dependent upon the length of the project slated. Hourly work done on the customer's site is billable portal to portal at \$130 with expenses and a daily per diem charged. As an alternative to consulting performed at the installation, a form of remote diagnosis and consulting can be done out of a

GOULD office for a lesser fee of \$100 hourly. These rates are billable to the nearest 1/10th of an hour with a minimum charge per call of two hours. GOULD provides customers of their Premier Service Agreement with discounts of up to 25%, and for users in need of the consulting support over longer terms, GOULD is willing to negotiate to contract out their software analyst personnel for jobs involving two or more weeks of consulting.

DEC makes software engineering personnel available to clients on hourly terms--rates and discount schedules were not disclosed. Prices for the assistance do vary according to the level of assistance the user needs, but there are no categories of expertise expressly defined within DEC's software staff.

Controlling the Use of Diagnostic Packages . . .

A question aimed at evaluating manufacturers' methods of controlling the unauthorized use of the self-diagnostic software packages available on their products revealed a range of policies among top manufacturers.

Many manufacturers simply will not make a self-diagnostic package available to users, restricting its use to their own field engineering staff, avoiding any situation conducive to the uncontrolled use by unqualified self-maintaining customers or unauthorized use by TPM companies competing for the customers service dollar. Others will make such packages available to their clients, but a manner which impedes undesirable ease of access to the diagnostic capabilities.

Methods entertained by GOULD and TANDEM provide examples of two common policies on the matter. TANDEM, in a practice just recently adopted, has begun to make such diagnostic software available on a separate-license basis as the "Tiered Maintenance Diagnostic Software" offering. Made available only to self-maintaining customers and maintaining resellers who are certified as qualified users, the diagnostic packages can be purchased without prerequisites of training or current contract coverage. To be considered qualified under the policy, the user must be proven as knowledgeable and technically adept in service of the unit, as well as being obliged to maintain sufficient sparing levels and timely and regular access to subsequent FCO releases. TANDEM feels the restrictive nature of this policy will provide enough control over unauthorized maintenance on their units to protect TANDEM's reputation for quality workmanship.

GOULD's policy, representative of the more conservative of the vendors on this issue, does not provide for the sale of this type of diagnostic software as part of a packaged product readily available to users. As standard policy, access to such programs is restricted to GOULD's FE staff. On rare occasions, however, GOULD will allow the sale of the diagnostic to customers holding a sophisticated knowledge of the machine and its software. With no packaged, prepared documentation or normal support provided with the software in such cases, the manner in which the software is supplied to these users necessitates a high technical knowledge of the unit's workings in order to make the diagnostic package at all beneficial to the user. In these cases, the GOULD customer did not have nor require a contract for GOULD-supplied support; it was their purpose as a knowledgeable user to have the software facilitate their self-maintenance on the units. The exceptional circumstances surrounding the release of GOULD diagnostics precludes any great possibility of uncontrolled use of the maintenance aid in the market.

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System Manufacturer Service Profiles Underway . . .

INPUT's Service Vendor Profile reports for both large and small system manufacturers are readying for shipment within the next month. Top competitors in both markets are featured, including Amdahl, Burroughs, CDC, IBM, and NCR among large system vendors and Data General, DEC, Gould, Concurrent, and H-P in the small system category. Information on 10 leading companies in both marketplaces is provided within each of the reports. Each profile includes insight into specific offerings and support delivery, and provides demographic and service revenue figures, an overview of the organization's background, as well as discussion of recent news items and future service directions. Subscribers to the large and small systems modules can expect deliveries before the end of October.

The GE/RCA Merger Enters Service Ops . . .

The TPM market has kept a watchful eye on GE's Integrated Communication Services and RCA Data Services Divisions since the corporate merger of the two industry giants earlier this year. More recent information confirms that, nearly one year after the agreement was struck, the third-party service units of the two companies will actively begin to consolidate their operations. Sources report that the effects of the two divisions' networking will start to be seen in the marketplace between the Thanksgiving and Christmas holidays and integration should be functionally implemented by year end. The consolidation of the TPM divisions will provide a staff of nearly 1,000 FEs with proven expertise at both the high end (with RCA's dominantly large account systems experience) and lower end (with GE's micro and peripheral business) of the market. Further information on the merger will be released as corporate confirms details.

The IBM Three-Year Warranty and Customer Responsibility . . .

IBM's recent announcement of three-year warranty support for its 3191 display station created a buzz among competing manufacturers, most of whom hold 90-day warranted service as a standard. The provision, however, is not without some "fine print" in terms of customer-performed diagnostic legwork required by IBM. Provided with each terminal are a set of "problem-solving guides," as well as a volume on Repair Center Maintenance Information. The use of these tools, as well as error indicators and off-line tests, are to be utilized by customers to isolate a failing element within the display, easing replacement or repair procedures for IBM and reducing the amount of FE time spent at the customer site when the component is picked up for exchange.

IBM offers to provide customers with assistance in the required "Customer Problem Analysis and Resolution" procedure, but exacts a fee at hourly service rates. The annual charge for post-warranty maintenance (3191 models A10 and 20, and B10 and 20) is \$40 for continued IBM on-site exchange service or is obtainable at \$30 as customer on-site exchange.

Tracking Revision Levels on Units in the Field . . .

After a unit is installed at a customer's site, it is often not readily apparent to the attending FE just what changes may have been made to the unit over time. A recent inquiry regarding the identification and tracking methods employed by various manufacturers revealed the following:

BURROUGHS, on their older systems, provides a record manually through a customer-site log held at each installation. BURROUGHS FEs, when installing any updates or revisions to the unit, indicate the new machine status in the logbook. For smaller systems, even new units are tracked manually in such logs maintained by the customer and FE. A review process is periodically done by the local engineer to confirm with clients their current system level and inform them of new revisions released since their last installation. Newer BURROUGHS large systems have internal self-diagnostic checks which provide an automated indication of the system's current revision level along with other status information displayed.

DEC has similar systems to track its units in the field. At this time, DEC FEs keep site logs at contract customers' installations and update the records with each ECO or unit update installed. DEC manufacturing is currently, however, turning out units and boards with the rev-level physically indicated on the component. A part number will be visible to the engineer with a suffix which will indicate the level at which the unit was manufactured. More technically sophisticated methods will eventually replace these modes of identification with the further introduction of VAX Bi modules to the market. The 8XXX series VAX currently has this capability (planned for most other future model releases) which allows the machine to track and identify the revision level itself through self-diagnostic tests and information display.

DATA GENERAL also reports the availability of internal diagnostics, even for its smallest units, which will display the current revision level of the system as self-checks are run. A central customer data base is also maintained and accessible to the support staff which holds information of all customer units in the field, including their revision status. FEs can extract the needed information from this source should there be a major down problem with the actual system.

H-P FEs also use a centralized data base to discern installed systems' revision levels. The data base is updated as each modification is made to the system and current information regarding the unit's status and past history can be accessed from the field.

PRIME utilizes a similar, dial-up system to track specific site information and logs all changes to units in the field in a centralized data base accessible through local field offices.

GOULD currently has such a data base system in the works and the system should be in use in the near future. Centralized in its support headquarters in Fort Lauderdale, the data base will allow engineers to access a variety of information regarding individual customers' installation histories. Units in the field at this time are tracked by standard manual site log methods.

Support on Zenith Equipment . . .

The major agent who often comes to mind when speaking of ZENITH equipment support is the third-party maintainer HONEYWELL. But, through research done for a recent inquiry, a lengthy list of additional independents offering maintenance on ZENITH machines was revealed:

The only other major player found to be supporting ZENITH systems is NCR's TPM unit, providing service on PCs as well as disks and memory expansion units. A number of smaller companies supply ZENITH users with support--among them are ABL Data Systems of Michigan; Cirvis in Southern California; Sertec Corporation located in Texas; Digital Communication Services on the East Coast; Rex Incorporated supporting users in the Midwest; and Data Access covers ZENITH customers nationally. Additionally, many smaller firms offer strictly depot support service to ZENITH units, including Computer Repair Tech, General Diagnostics Corporation, Computer Systems Service, and Servitec which offers mail-in maintenance across the country.

Source Code Listings and Availability . . .

Policies of major small systems vendors were investigated this month regarding the availability to customers of full source code listings for their products' operating systems software...

DEC, when asked about source code availability, implied that very few customers have voiced such a requirement, and of those who do, the listing is generally needed only for documentation purposes, especially among government users. For this need, DEC can provide a record of the code on microfiche for a relatively nominal fee. Sale of actual source license in tape form runs in the \$20,000-25,000 range and updates to the code are provided as changes in the form of major revisions are released on the system.

GOULD allows customers to license actual source code listings for certain classes of products running under its version of UNIX. Prices are relevant to the hardware unit involved and release of the listing proceeds via a sublicensing agreement for GOULD-supplied third-party software products.

PRIME also makes operable source code available to its users at the time of system purchase and offers options to license the listing later in the life of the product. If the initial purchase includes the software listing, any updates are provided automatically without additional fee. Should the user license the source code at a later date, a subscription service can be purchased to provide updates and revisions to the listing.

Among other manufacturers surveyed who hold a policy of non-release of operating system software source code listings are DATA GENERAL, HEWLETT-PACKARD, and WANG.

The Growing Network of Dynelectron . . .

Since the 1984 purchase of the Computer Repair Sales Company's TPM operations by DYNELECTRON corporate, the \$640 million service conglomerate has been aggressively pursuing ground in the third-party maintenance arena. DYNELECTRON's TPM division, dubbed the DYNELECTRON Service Network (DSN), is centered around the operations of the three companies acquired thus far in their surge into the TPM market--those of UNITRACE Incorporated of Santa Clara (CA), the THREE DELTA Corporation of Sunnyvale (CA), and GRANADA DATA SYSTEMS based in nearby Hayward. Each location retains its previous corporate tag as the title of its respective division under DSN, but operationally, the network is working toward consolidating the Bay Area locations to allow functioning as a single service force, sales group, and financial reporting unit. Currently employing over 200 support personnel in its depot repair operations, DSN, with the strong financial backing of the DYNELECTRON parent company, remains in an aggressive acquisition mode, and looks to merge other depot facilities and established client bases into its

operation. Targeted areas for expansion of the network include Boston, Atlanta, Chicago, and Dallas, as well as further expansion within California. John Lange, current DSN marketing vice president and former GRANADA CEO, will be stepping into the DSN presidential position this year, heading a team of executives drawn from each of the three key companies.

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Third-Party User Requirements Analyzed . . .

Part of the 1986 third-party maintenance module, INPUT's User Service Requirements--TPM report is in final draft and will be ready for shipment to clients early next month. One hundred fifty (150) users were contacted in the course of the research, and a variety of support delivery aspects and future third-party concerns were discussed with users of large and small systems, PCs, and peripheral equipment.

Separate analyses by product group are presented covering specific service offerings and vendor performance ratings. Research results are analyzed regarding the effect on the market as well as their practical meaning to support vendors.

GENICOM to Acquire MOMENTUM Support and CENTRONICS Manufacturing . . .

In an aggressive strike which took the industry by surprise, the newly-formed service organization of MOMENTUM TECHNOLOGIES and the established manufacturing business of CENTRONICS DATA Corporation were announced to be in the process of acquisition by peripherals vendor GENICOM, INC. MOMENTUM, operating as an independent unit for less than a year since their evolution from the MOHAWK DATA SYSTEMS Corporation, will serve as GENICOM's support arm, replacing the service organization of GE as a maintenance vendor of GENICOM printer and controller products. CENTRONICS, a well known manufacturer of data printers and related devices, will healthily augment the manufacturing operation of the smaller GENICOM organization.

GENICOM, INC., originally the strategic business unit of General Electric Corporation, spun-off in 1983 to form an independent manufacturing unit. Since that time, the organization has reportedly been searching for a means to provide its customers with direct support. Since the company went public in June of this year, the time is right for such a move. Details of the agreement are currently under discussion between the boards of the respective firms, but agreement in principle has been reached and conditions of the purchases will be publicly announced within the month. (As a side note, a few weeks previous to the news of the GENICOM takeover, MOMENTUM corporate president, Michael Bergamo, was relieved of his post, reportedly due to internal disputes with upper management which could not be resolved.)

Final Form of GE/RCA TPM Merger Announced . . .

The effect on the service operations of the two industry giants, GE and RCA, who merged as a corporation earlier this year, is finally visible as the Business Communication Services Organization emerges from their corporate reorganizational effort. The third-party maintenance operations of each of the companies, both among the top-ranking TPM firms in the market, will be under the direction of the new group, which is one of the few subsidiary operations to be melded operationally. The merger unites RCA's Business Communication Services and Systems with GE's Integrated Communication Services units, and will be headed by Eugene F. Murphy. The combined forces of the two major contenders will provide a serious competitive shift in the TPM market, yielding a support operation with a combined revenue base of over \$160 million.

DEC Extends its One-Year Warranty in U.K. . . .

Our London office recently informed us of an announcement by DEC of the extension of the one-year warranty which came into effect earlier this year in the U.S. DEC users in the U.K. will now enjoy this extended warranty offer not only on their high-end VAX systems (as is provided in the U.S.), but on all DEC hardware components, including peripheral units. A spokesperson for DIGITAL has informed INPUT that there are some peripherals which qualify for this extended warranty in the U.S. (e.g., the new "Print Server 40" terminal server/printer unit) and, although hesitant to comment further in terms of specifics, talked of the warranty offering as a "definite trend which DEC plans to perpetuate."

Small Systems Trade-ins . . .

With the constant announcement of advancements and upgrades to the array of small systems on the market today, users of these mini- and super-minicomputers often find their system being rapidly outperformed by newer models of their units on release. Coupled with the ever increasing demands users of these small systems tend to place on their systems, many users quickly come to appreciate the attractiveness of a replacement investment. A number of small systems vendors were asked about their policy regarding trade-in allowances toward the purchase of an upgraded system.

Users of GOULD systems have reportedly been allowed such credits toward the purchase of a newer model in the past, but GOULD currently offers no standard, advertised offering for the trade-in of older units. The extent of the credit offering is dependent upon the specific units involved, as well as situational factors.

HEWLETT-PACKARD holds much the same policy toward trade-in units, not offering any standard program crediting H-P users for replaced machines, but has been known to accept trade-ins, at H-P's discretion.

DEC's policy regarding such credits fluctuates somewhat with the individual product groups responsible for offers made to their respective customers. Trade-in programs offered by DEC are usually provided over a relatively short period of time (typically one quarter), the conditions and duration dependent on the open business opportunity which spurred the offer. The last allowance provided applied to users of the older DEC System 10 and 20, and offered credit toward the purchase of a newer VAX model.

DATA GENERAL does not at this time offer trade-in credit to customers on a regular basis, but reportedly has such a project in the works.

PRIME was the only small systems manufacturer contacted who offered such trade-ins on an ongoing basis through their extensive Upgrade/Trade-in Credit program. Allowances toward the purchase of replacements of both CPUs and memory units are provided according to an established schedule. The portion of this scheduled amount which can be applied to the replacement purchase is dependent upon the age of the system, with 100% allowable for installations under one year old, down to 25% for systems which have been in operation from three to four years. The credit amounts provide considerable savings to the users, with systems allowances running between \$10,000 (for returned 2350 CPUs) and \$161,000 (for a replaced PRIME 850).

More on T&M Specifics . . .

A recent inquiry regarding the per-call rates of some of the major large systems manufacturers revealed some significant differences in per-call billing policies. Most manufacturers, when quoting per-call rates, are referring to what is known in the industry as a "T&M," or a time and materials hourly charge, which includes both the labor performed within the period as well as any necessary parts replaced. Not so with at least two of the top competitors, namely IBM and AMDAHL, who quote "Hourly Service Rates," and "Time and Expense" figures (respectively). These hourly amounts cover labor time spent during the call, but exclude any materials expended in the course of the repair. The difference in total support cost per call, considering these differences in billing structure, can be significant. IBM's current Hourly Service Rates run between \$100 and \$219 for hardware. AMDAHL charges from \$190 to \$219 for "T&E" calls.

Discounts on Maintenance . . .

Manufacturers' discounting policies vary greatly, even among the more standard accepted volume/single-site and prepayment allowances. Following are some examples of the types of contract maintenance discounting available to users currently...

DEC offers a single discount provision for its hardware customers in the form of an annual prepayment reduction totaling 5% of the entire service charge. (Software users are granted somewhat more lenient allowances for multiple system contracts, which range from 6-15% for each of 5 to 20 systems on a single contract agreement.)

DATA GENERAL provides volume discounts for installations of 10 or more units, offering users a discount amounting to 10% of their basic cost. Annual prepayment allowances are also offered at 5%, and new multiyear discounts, for users willing to commit to longer term contracts, are currently under development. For example, customers signing maintenance agreements covering a three-year term will be eligible for discounts in the 7% range; longer commitments of five years will warrant around a 10% reduction.

These multiyear plans follow the policy of WANG with their three- and five-year price breaks, as well as prepayment allowances of 6% for expedient payment of a yearly contract fee (within 30 days of the start of term). Volume location discounts are also offered to customer sites with annual support expenditures over \$100,000; percentages vary with equipment and dollar volume.

H-P provides a similar interpretation of this volume discount, in their Major Site Service Credit program. Users are offered a credit percentage based on the total maintenance dollar amount spent with H-P for a customer's installations located within a five-mile radius. In order to apply, all equipment must be maintained under a single contract, and can qualify for discounts ranging from 5-20% for installation(s) with over \$8,333 of monthly support costs.

GOULD provides users with simple single-site discounting for both Systems Support and Comprehensive Hardware maintenance. These allowances range from 20% of monthly fees over \$4,000 to 40% of monthly fees exceeding \$8,000--a significant savings for large volume users.

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November 1986

Burroughs/Sperry Emerges as UNISYS . . .

In May 1986, Burroughs and Sperry culminated a \$4.8 billion merger begun almost a year earlier. While the merger created a large competitor to IBM, there was much industry speculation about how successful Burroughs and Sperry management would be in combining the two companies. Early in November, the combined corporation moved to demonstrate their determination to successfully form a single company by renaming themselves UNISYS, a name reflecting "united, information, and systems." UNISYS was heavily promoted in a \$20 million advertising program that will also emphasize the motto, "the power of two." While there is still no word on changes in service directions, early indications are that some level of employee reduction is expected to eliminate redundancy within the new corporation.

IBM Announces Maintenance Discount Amendment . . .

On the heels of the EMA (Enterprise Maintenance Agreement) select market test, a new maintenance discount policy was announced by IBM early last month in the form of the CSA (Corporate Service Amendment). Allowing corporate users of IBM equipment deemed eligible (at IBM's discretion) 20-30% discounts on total maintenance fees, the agreement is not felt to be much of a threat to existing third-party servicers, traditionally offering support at equivalent discount levels: IBM's amendment provides the lower costs only to users assessed as "following acceptable system management procedures," which includes the completion of a number of preliminary service steps, such as problem analysis, error recovery, and correction of operational problems as defined procedurally by IBM, as well as the correct identification and logging of system failures, all performed by the customer's control center.

Eligibility for the agreement is based upon the passing of IBM inspections, costing the user between \$3,500 (each systems on-site inspection) and up to \$8,500 (each network on-site inspection). Users can apply for one- to three-year CSA agreements with extent of pre-maintenance procedures necessarily performed at the site, as well as the amount of discount, varying with the specific user case. For further details of the amendment, individual users have been advised by IBM to contact their account representative.

PacTel Centralizes Support . . .

PacTel InfoSystems has recently centralized maintenance and repair operations into a single facility in San Ramon, CA. Consolidating the regionalized organization previously utilized by PacTel in support of their communications and computer products, users across the states now access a single 800-line to request service on any related equipment. Customer records have been automated, allowing operators at the service center's switchboard to field calls and process requests more efficiently using the centralized data base and a direct paging system to call engineers in the field into action. Software support is handled via a separate toll-free line and users of large datacom systems are still provided access to the remote diagnostic and repair service link through its San Leandro Center.

CDC Introduces High End VAX Support

CDC will now offer service on DEC 8600 and 8650 systems, complementing their existing TPM support of related DEC peripherals. Announced in mid-November, the offering on the new high-end VAX is among the first from the third-party DEC market.

Sperry Announces Service on Microvax . . .

In another recent announcement of TPM expansion in the DEC line, SPERRY (now part of UNISYS) announced their offering on the Microvax II. Previously supporting only the PDP line of DEC systems, the new offering complements their support offered on a variety of DEC peripherals already serviced.

NCR Offers New Depot Services . . .

Based in their Peachtree, GA facility, NCR has recently announced depot level support on a variety of NCR and third-party peripherals and assemblies. In addition to testing and repair services, refurbishment and upgrading support will also be provided via carry- and mail-in centers throughout the U.S.

Mileage Surcharges . . .

A recent inquiry regarding the uplifts factored into service price for some of the top hardware manufacturers revealed some distinct differences in policy...

IBM, although having differentiated charges by predesignated zones in the past, do not specify such uplifts in the most recent editions of their standard maintenance contracts.

GOULD and WANG both structure uplifts differently for micro units versus higher performance systems. WANG, expressing a preference away from supporting remote micros and peripherals, uplifts associated contract pricing on such units by 50% when located between 50 and 100 miles from a WANG service site, and 100% for units over 100 miles from a service location. Higher-end systems must add lesser surcharges, which range from 25% (within a 101 to 200 mile radius), 35% (201 to 300 miles), up to 45% for units installed over 300 miles from a WANG site.

GOULD, on its microproducts, specifies 25% uplifts when installed 50 to 100 miles from the nearest service location and 50% when over 100 miles distant. For higher performance systems and peripherals, lesser adders of 10% (51-100) and 20% (100+ miles) are charged. Beyond a 100-mile radius, terms are negotiable.

DEC adds a mileage surcharge to all basic service contracts and to DECservice agreements totaling under \$300. Uplifts of 10% between 100 and 200 miles, and 15% over 201 miles apply.

H-P has slightly higher uplifts in effect, at 25% (101 to 200 mile radius), and 50% (201 to 300 miles) with sites more than 300 miles remote negotiated.

Software License Transfers . . .

A recent announcement by DEC has spurred interest in the area of software license transferability among manufacturers. Previously, DEC had allowed transfer of license between parties, incurring a fee for the transfer service. A new policy was revealed at this year's DECUS seminar, however, which precluded any transfer activities between users of any of DEC's software packages. Other manufacturers surveyed held a wide range of policy toward such activities.

WANG, for instance, will allow for license transfers for usage between separate machines, but does not allow for transfer between individual owners. This applies to applications packages and carries a \$200 per software model number fee.

PRIME grants non-transferable licenses for all of its software other than proprietary operating system PRIMOS, which for practical purposes in purchase and support, is considered part of the hardware system package.

H-P, although considered an issue on the product-division level, does not have current policy allowing for any transfer activities. DG, on the other hand, reports that license transfers are allowed and can be implemented at no charge to either party.

User Training on High-End Laser Printers . . .

In a product comparison survey conducted last month, the training and discounting of maintenance for three high-end laser printers was researched. Between the three vendors considered, the policies affecting self-maintainability of the printers varied widely...

XEROX, with a wide assortment of educational programs aimed at user support staff, will provide customer maintenance training through lecture and "hands-on" applications at their Leesburg (VA) training center, or on the West Coast at their El Segundo branch. Although the courses offer detailed instruction in diagnostic and common problem repair as well as preventive maintenance, there are no discounts associated with completion of the course.

Uptime guarantees are associated with contractual coverage, offering 95% uptime on the 9700 and 8700 laser printers, and, although not yet officially announced, will also apply to service guarantees on the newer 4050 and 4060 models. Response, in order to live up to these availability guarantees, is within two hours in 70% of calls and always occurs within four hours, according to XEROX sources.

Full user maintenance training for HP 2680 and 2689 units is not available, but a mentored self-paced training course is available at H-P sites. H-P does not offer discounts for users completing the course.

STC's new 6100 was also reviewed, and support training can be arranged on the unit for remote installations, but is not offered as standard course. The training received would be of such a high level, however, (equivalent to STC technician education) that STC would expect users to provide maintenance themselves and need STC only as a backup to their own staff. Likewise, guaranteed uptimes are not standardly offered, but are commonly negotiated by local offices as they can be provided.

CPX Distributing for CDC . . .

A recent question of the extent to which CPX offers support for CDC disk drives revealed that the TPM company acts as an authorized distributor for Control Data, offering a full line of supplies and assemblies necessary for the maintenance of CDC's removable media disks. All media, filters, alignment packs and head assemblies are provided, as well as specialized tools used in service, and all motors, spindles, circuit boards, and power supplies associated with CDC disk maintenance. Currently, CDC is the only manufacturer for which CPX is acting distributor, but the company does offer straight support on a variety of other manufacturers' products.

Pyramid Technologies Support Profile . . .

PYRAMID Technologies, based in Mountain View, CA, is a relatively small but growing contender in the parallel processing market. Revenues topped \$33 million in fiscal 1985 for the firm, whose basic products are a series of 32-bit superminis featuring RISC-based virtual memory capabilities. Net income of \$2.9 million was realized over the year from the sale of their units, each ranging from \$260,000 to \$500,000 in price.

The company operates 17 sales/service locations across the U.S., with support centralized in the Mountain View headquarters, where technical support, remote diagnostics, and call handling is based. PYRAMID employs 66 total support staff with between 24 and 27 actual engineers at work in the field. Support offerings range from basic traditional on-site service for both hardware and software, through "customer-built" agreements accommodating user self-maintenance to any extent desired

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Bell South Acquires Dataserv . . .

DATASERV Computer Maintenance, Inc., one of the top contenders in the TPM marketplace, was purchased by BELL SOUTH late in November for an undisclosed amount. DATASERV, specializing in service and support of IBM and compatible systems and peripherals, reported \$23 million in revenue last year, with expected revenue of \$37 million in 1986. BELL SOUTH picks up 32 service locations and a staff of over 400 field engineers with the acquisition. Further details of the purchase and its effect on operations are forthcoming.

Honeywell Sells Off Computer Operations . . .

HONEYWELL, in a move defining its exit from the remainder of the "bunch" (previously BURROUGHS, UNIVAC, NCR, CDC, HONEYWELL) group of U.S.-based mainframe manufacturers, has restructured operations into an international partnership with Compagnie des Machines Bull of France and NEC Corporation of Japan. In a \$5 million agreement, HONEYWELL passed 57.5% of its information systems operation to the new company which will emerge from the pact, and has further plans to reduce its IS holdings in the joint operation over the next few years. NEC will hold a 15% share of the new organization, with Honeywell and Bull equally sharing the remaining 85%. Honeywell retains an option to reduce its interest in the company to 19.9% over the next two years. Recent sluggish sales trends experienced by HONEYWELL IS qualifies the move away from the system manufacturing business as a financially sound one for HONEYWELL.

Northern Telecom Loses Western Offices to PACTEL . . .

As was mentioned in the November Service Update, PACTEL InfoSystems had recently centralized its support operations into a single facility in Northern California. Strengthening its resource base on the West Coast, the reorganization effort was soon followed by the announcement of PACTEL's acquisition of the western sales and service branches of NORTHERN TELECOM, Inc. All of the 700 NORTHERN TELECOM offices located in California, Oregon, Washington, Colorado, and Arizona are now operating under the PACTEL logo, offering continued support to NORTHERN TELECOM customers, as well as taking on the needs of PACTEL users in the western states.

DEC Postpones License Transfer Policy Change

As discussed in the previous issue of the newsletter, DEC had abruptly announced at its recent DECUS seminar a change in policy which prohibited software license transfer between DEC product users. Up against stiff opposition from users, DEC quickly followed the announcement (originally not planned to be revealed to customers until early in 1987) with a postponement and clarification statement. The new policy, which provides for transfers within a corporate entity, will now go into effect in March 1987. Other clarifications included the allowance of transfer between OEMs and sublicensees, and the provision that, although operating systems must be relicensed when transferring hardware ownership between users, only the difference between an older software package and an upgrade to the package need be paid when dealing with layered software products. DEC previously had allowed for transfer of license with no assessment charges involved for approved cases of transfer. Basically, most situations were granted right to transfer if not a clear case of brokering.

Contract Termination and User Refunds . . .

TPM users opting to prepay yearly maintenance contracts, although least likely to find cancellation of the agreement necessary, face a wide variety of vendor attitudes across the marketplace. Three of the top third-party firms provide examples of the range of policies applicable to the situation.

HONEYWELL's policy exemplifies the harshest of attitudes toward annual contract cancellation, allowing no refunds of any fees paid in over the term, even if the entire annual fee has been collected.

UNISYS, although agreeing that contractually the entire yearly fee could be withheld, takes a less severe stand concerning the issue of refunds. Should a UNISYS customer desire to retract within the term, the situation, considering the user's reason for withdrawal from the agreement, would be reviewed and final terms and refunds deemed appropriate would be awarded.

McDONNELL DOUGLAS field service, by policy, will repay fees collected beyond the length of notice required for cancellation of the contract. Notice required for cancellation varies with the type of contract entered into, but has a minimum of 60 days.

Epic Data Support Plans . . .

EPIC DATA INC., the \$16 million manufacturer of system peripherals, controllers, and media, bases its manufacturing and repair operations in Richmond, British Columbia, and provides users of its IBM/DEC/DG/HP/NCR compatible units with three basic options for manufacturer-supplied repair. Although many of the units are supported by third-party companies as part of a larger system, service through mail-in depot can be contracted with EPIC at a standard cost of 8% of the unit's purchase price. A second option is standard per incident depot arrangement, with flat labor fees ranging from \$125 to \$450 (depending upon machine type) plus replacement parts costs. The third plan, although still mainly depot based, offers users turnaround comparable to on-site support. Priced at 12% of purchase price, the agreement provides users with a stock of spare units onsite, allowing for immediate replacement of a failed unit. This defective unit can then be sent back to EPIC for repair without imposing the usual downtime resulting from traditional depot support arrangements--an interesting strategy allowing a manufacturer with limited support resources to compete with on-site support offered by national TPMs.

In Support of Retired Products . . .

The issue of product retirement is not often considered by users as they weigh alternatives in the purchase of their new system. Once a unit is removed from a vendor's production line, however, the availability of spares and support for that aged system becomes of obvious concern to its users. Customers of systems being retired from the market are usually notified of the vendor's policy of continued support allowing sufficient lead time for that user to consider the available alternatives. Approaches to the situation vary greatly between manufacturers, however...

DG gives written notice of the stoppage of active service on its units, providing customers with a 36-month period in which to choose between the third-party and vendor-provided T&M coverage available. Trade-in allowances provide users with a certain incentive to replace their old system with a newer, upgraded unit from DG.

GOULD's standard policy provides for written notice 90 days prior to the date of a product's retirement, and allows for service on the unit to be continued for five years after the last standard unit comes off the assembly line. This term can be extended up to 15 full years beyond the date of retirement for systems which have been under an uninterrupted contract for the life of the product. Product discontinuance is also published in GOULD depot repair price listings which are released two times yearly.

H-P holds no clear-cut corporatewide policy regarding notice of retirement and specific product policy varies by system. The number of installed units in the field, as well as internal resource factors are considered in the setting of extended-support terms, and responsibility for notifying users of the impending retirement is relegated to sales representatives who can discuss alternatives and trade-up deals with the customer.

PRIME gives users a 12-month term of notice upon the retirement of its systems and will continue to offer support for the product for a full seven years beyond its official removal from the active-product list. Extensive trade-in allowance programs are provided as user incentive for upgrade to a newer PRIME machine.

DEC, in answer to our service/retirement question, cited an example of one of its oldest units on the market, a PDP/7 installed in the early 1960s which 20 years later is still being provided with DEC support.

Texas Instruments' "TI-Care Plus" Offering . . .

A little over one year ago, TEXAS INSTRUMENTS announced the enhanced premium support program "TI-Care Plus" as the successor to its TI-Care offering, which had provided users with the option of four-hour response time for a 30% uplift from a system's basic monthly maintenance charge. TI-Care Plus offers the same four-hour response during normal business hours plus an uptime guarantee for a lower, 20% uplift to a unit's BMMC. The uptime guarantee, promoted as a promise for 96% uptime for the system core unit, is actually based on intervals of three months, guaranteeing 96% uptime over each 2,190-hour period, or the 20% uplift amount will be refunded to the user. Thus, in effect, the guarantee provides for an annual uptime pledge of only 84% in total, considering the three-month period on which the agreement is based. Any guarantee of uptime is better than none at all, however, and the reduction in premium for 4-hour response was welcomed by TI's Business-Pro and Business Systems Series users who qualify for the program. Users of critical systems can opt for a "99%" guarantee with 4-hour response, 24 hours/7 days per week at a 72% premium over BMMC. Similar TI-Care service previously cost a 130% premium with no uptime guarantee associated with the support. The TI-Care Plus agreement is provided in basically all major metropolitan areas of the continental U.S., and can be purchased to cover all of TI's Business Pro systems, as well as the Business Systems Series 100, 300, and 600.

DEC Discounting Spares to VARs . . .

DEC, providing the most lenient discounts to resellers in the market, provides its VARs with discounts on spare parts which equal the discounts allowed them on the actual product purchased from DEC. The considerable price breaks are provided to all DEC VARS, with one exception--the reselling firm cannot also be involved in the business of third-party maintenance.

Response Times Delivered by Telecom Vendors . . .

A recent survey of top telecom and communications systems manufacturers regarding their quoted response time for both contract and "time and materials" customers revealed the following...

Like most vendors, contract customers at WANG hold priority among incoming calls for help in the field; T&M customers receive response on a best-effort basis. The lowest response time provided to WANG users is the two-hour guarantee provided to Uptime 300 and Wangcare Plus contract customers who lie within a 25-mile radius of a Wang service center. T&M support is billed at \$116 per hour prime hours (Monday through Friday, 8:00 a.m. to 5:00 p.m.) and at \$150 during other times. Per-call users must pay a minimum of a two-hour call if within 50 miles of a service center, plus travel charges equivalent to an additional one-half hour from 0 to 10 miles, 1 hour for 11 to 25 miles, and 2 hours for a 26- to 50-mile trip (one way). If from 51 to 100 miles, a minimum of 4 hours is charged, plus either 3 hours (51 to 75 miles), or 4 hours (76 and further) for travel time.

DEC contract customers, as defined by their contract term, receive priority among service calls, and can count on four-hour response if a DECservice customer, or two-hour response on new, larger VAX systems as announced earlier this year. Non-contract customers' response is quoted as best effort on DEC's part. Labor rates (parts and travel are additionally charged) run from \$81 (PCs, terminals) to \$115 for systems from 8:00 a.m. to 5:00 p.m., Monday through Friday, and \$96 to \$137 during non-prime hours. A minimum charge per call is set at two hours, and the time is billed portal to portal.

ROLM, by policy, will give contract users priority, but in practice considers the immediacy and seriousness of each caller's need. Normal response quoted for contract customers is three hours for major problems. Accelerated responses of 1.5 hours are available. Minor problem calls for contract as well as T&M users are responded to within 24 hours. T&M customers also have a rapid response time option available, providing three-hour response for a flat \$250 adder. Time and materials rates (8:00 a.m. to 5:00 p.m., Monday through Friday) are billed with a one-hour minimum at \$95 for the first hour of service and at \$65 for each subsequent hour spent on the job. Overtime is charged at \$130 the first hour and \$100 even beyond this time. Travel charges are "built into" these hourly fees.

INTECOM commented that conflicts for FE resources are rare within its service operation, but, again, contract customers would likely be given priority when the degree of the competing problems were equal. Priority, as well as response time, are based on this issue of criticality for T&M customers as well as contracted users. Per-call rates at INTECOM are based on a \$50 per hour prime rate, billed portal to portal, and carry a minimum charge of one-half hour.

DEC Disaster Recovery Program . . .

DEC has developed a comprehensive disaster recovery program to protect companies' computing resources. The DEC recovery system helps protect data and enlists quick recovery if a disaster should occur. The recovery system allows DEC to provide single-source dependability and at the same time allows the customer to make one call to receive the needed service enabling its system to become operational. DEC combines several services to make up its disaster recovery program. These services include Information Management, Consulting/Education, Data Protection, Recover-ALL, RESTART, ReServe, and DECsite. A deeper look into DEC's recovery services will give a clearer understanding of the components that make up the recovery program.

- INFORMATION MANAGEMENT, CONSULTING/EDUCATION features customized consulting for contingency planning in case of disaster. In addition, educational services are offered in the form of seminars teaching protection of data resources. Issues covered in the seminars include creating your own contingency plan, assessing data center vulnerabilities, sources of emergency computing, designing and maintaining a recovery plan, and training of selected recovery teams, in addition to other relevant issues.
- DATA PROTECTION encompasses data protection as well as media maintenance. Media maintenance includes secured media storage facilities, custom equipment and trained personnel, automated process and control, management/inventory/status reports, and 7-days-a-week/24-hour data retrieval. DEC's Data Protection service ultimately prevents business slowdown when data or media have been damaged.
- RECOVER-ALL works along with a customer's DEC field service agreement, covering situations not otherwise included by the agreement. Situations covered by Recover-All may include power failure, sprinkler leakage, fire, theft, and vandalism. Recover-All fixes or replaces damaged equipment quickly to get a customer's system up and running and minimize downtime. In addition, Recover-All offers reimbursement for extraordinary expenses such as use of DEC's ReServe shell site while equipment is being repaired.

- RESTART is used for backup of critical data processing applications. This service allows backup of DP applications within hours of a disaster. RESTART is targeted at organizations who are subject to backup regulations, such as financial institutions and government agencies, or companies who are dependent on the processing and availability of data. This service allows the customer to go to a secure DEC facility and utilize the necessary equipment, personnel, and facility to resume critical processing functions. RESTART I provides coverage during weekends and evenings and RESTART II provides coverage 24 hours per day, 7 days a week.
- RESERVE provides a computer-ready controlled environment for a customer's computer system. This service uses DEC technology to provide a safe location for continuance of computer operations. Entrance into the facility is controlled to ensure the security of a customer's operations. ReServe includes 1,000 square feet of computer-ready space, phone wiring, and transportation of a customer's system to the site. An interesting side note, the cost of using ReServe can be covered under DEC's Recover-All service.
- DECSITE is used to plan, design, and build computer sites. The advantage of DEC Site is the ability to complete the construction in the quickest way. DEC Site offers three levels of service: DEC Site I is the decision stage and is used to analyze computer environment needs to formulate budget and schedule estimates; DEC Site II is the design stage and provides the customer with drawings and specs of the plan that was chosen in DEC Site I; DEC Site III is the delivery state. At the end of DEC Site II, DEC will submit a price quote and delivery schedule for approval. The customer will review the quote and when the agreement is made, DEC will provide the necessary components to construct the computer facility.

In addition to these disaster recovery services, DEC offers a Contingency Planning Assistance service. This service offers detailed management guidelines and an automated model disaster recovery plan. The planning guidelines include selling management, data center audits, risk analysis, testing, off-site storage requirements, personnel, and training. The disaster recovery plan, Disaster Plan/80, includes a four-hour orientation and guidelines/models to help develop a contingency plan for the organization in case of disaster. Disaster plan emergency procedures are available on media allowing for customization of the software. The Contingency Planning Assistance service can be utilized by any small, medium, or large organization.

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New Focus for INPUT's 1987 User Requirements Surveys . . .

The 1987 interviewing process is underway at INPUT's Mountain View office, kicking off the year with a new focus for the '87 Service Requirements reports for large and small systems users. All interviews are to be conducted by phone as in previous years, but will involve more open interaction with the users regarding their distinct needs and problems, as well as significant increases in the number of interviews conducted in each vendor category. The new interview structure should provide INPUT analysts with more direct feedback from users regarding their needs and problems, and will include actual suggestions made by users regarding vendor management of their needs and trouble areas.

Northern Telecom Sells Off Additional Service Operations . . .

As was covered in INPUT's December Service Update, PACTEL had recently acquired the western division of NORTHERN TELECOM's support offices. Soon after that announcement, the transfer of NT's midwestern operations to CENTEL Business Systems was made public. This agreement, similar to the one struck with PACTEL, involves the integration of the existing NT sales and service operations into the buyer's organization, and provided for major increases in the client base of both PACTEL and CENTEL corporations. NORTHERN TELECOM continues to operate a direct sales division from the East Coast.

More on the Bell South/Dataserv Merger . . .

As was announced late in 1986, BELL SOUTH Enterprises had bid to acquire DATASERV, a leading lessor/servicer of IBM equipment. The deal was struck in terms of trade, with BELL SOUTH offering one share of common stock for every 20 shares of DATASERV, setting the total value of DATASERV's common stock at near \$97 million. BELL SOUTH indicated plans to retain current DATASERV management, and offer financial support to the growing of DATASERV's service operations as they complement BELLSOUTH's telecom support business.

Availability of Documentation on Microfiche . . .

The availability of system documentation on microfiche has traditionally been provided for major government installations in the past. As users require more extensive documentation with the increase of user involvement in maintenance, it's becoming more of an issue among users in the commercial sector as well. Recently, the question of microfiche availability to the such end-users has been raised, and a number of supermini manufacturers were polled regarding their documentation policies...

HP, PRIME and DG all reported that such documentation is not currently offered to end-users as part of their standard programs. GOULD, however, is offering manuals for their hardware units on microfiche, as well as providing updates to the documentation on the same media.

DEC offers the most comprehensive program of the vendors contacted, through their "MDS" (Microfiche Documentation Service). All forms of documentation for any of their units are available on microfiche through this service, especially aimed at customers practicing some degree of self-maintenance.

TRW's "Insurance Plan" for PC Users . . .

TRW offers its TPM customers an alternative to straight annual maintenance charges through a program providing for an "Insurance premium" contract that works along with billable flat fees per call. Offered on the family of IBM PCs as well as a number of IBM-compatible units which TRW services, users pay a 25%, 35% or 50% annual premium up front, and receive support as needed, paying a flat-fee per call. This flat fee is calculated separately for each individual contract, taking into account historical support usage, as well as the size and circumstance of the account. Usually estimated at four to five calls per year, the billable per call fee is adjusted to reflect the expected usage.

This type of contract has been offered by TRW (and also CDC in their similar Flexible Fee Program) for some time, but a new twist recently added to the agreement by TRW has greatly increased its competitive power in the market. Such Insurance contracts have traditionally provided users with a maximum cost ceiling, by definition. TRW's newest version of the agreement, however, provides a ceiling which guarantees that the user's full expenditure under the Insurance program will not exceed the cost of equivalent coverage under a standard maintenance contract over the same period. With the new agreement, should the number of maintenance calls within the term be less than originally calculated, the user walks away with considerable savings for their year's coverage on the unit. On the other hand, should the number of calls be greater than estimated in the pricing of the contract, the user will not accrue a total cost greater than what they would have paid had they opted for a standard coverage contract over the year.

Pricing for the plan is roughly calculated through a formula based on the retail price of a standard service contract for the individual units considered in the agreement. For example, consider the Insurance plan pricing on the basic IBM PC. The annual cost of a standard maintenance contract is \$157. Should a user opt for the 35% Insurance Premium plan, the percent premium amount the user would pay initially would be calculated as the standard cost multiplied by the insurance premium percent:

$$\$157 \times .35 = \$54.95 \text{ premium amount initially paid}$$

The billable amount per call is then calculated by subtracting this premium amount from the standard contract price, and factoring the number of service calls expected over the term into this amount. Assuming that the number of calls for the year is projected to be five or under:

$$\$157 - \$54.95 = \$102.05$$

$$\$102.05 / 5 = \$ 20.41 \text{ billable amount per call}$$

The maximum allowable cost under the contract then is established as equal to the original standard maintenance contract price.

What then would be the advantage to the user of purchasing a standard service contract? Only the ability to predetermine budgeted support expense, according to a source at TRW. Allowing IBM PC users a gamble which can only result in service dollars saved is bound to be a strong competitive weapon in the crowded PC maintenance marketplace.

Repair and Refurbishment Services from SORBUS . . .

A recent hotline inquiry revealed some interesting facts regarding the extent of SORBUS' centralized repair and refurbishment services. Sorbus is currently offering repair and refurbishment services for more than 400 makes and models of systems and components, and repair is offered at every level from complete system overhaul to board-level repair.

SORBUS repairs and refurbishes the following: micros, minis, mainframes, POS terminals, peripherals, expansion devices, memory devices, data communications equipment, and PC boards. Along with repairs, Sorbus offers flexible service agreements covering most customer problems. Also, a limited 90-day warranty accompanies all repair work done at their facilities.

SORBUS' customer base includes computer retailers, VARs and OEMs, offering its users quality service and quick turnaround. These customers have realized the prohibitive costs associated with having comparable in-house service facilities and are opting for the services offered by Sorbus.

SORBUS' facilities for repair and refurbishment are located in Philadelphia, PA and Tustin, CA. These facilities perform 15,000 repairs a month utilizing 170,000 sq. ft. of service space. Sorbus currently has 400,000 units under service contract at over 70,000 sites around the country.

In addition to the repair and refurbishment services offered by SORBUS, both TRW and TI offer similar services to maintenance and support organizations. TRW offers their Electronics Industry Service for repair and refurbishment, while TI offers a refurbishment service to existing service organizations. Both services provide board-level and automated refurbishing with turnaround that meets or beats the industry average.

UNISYS: Burroughs and Sperry Merge Third Party Units . . .

UNISYS has completed the merger of Burroughs' and Sperry's third-party reseller organizations. The merger completion date had been set for the end of January, but has been completed ahead of schedule.

The new unit, UNISYS' Reseller Organization, will be headed by Stephen Paul Baxter, former VP of Value Added Marketing for Burroughs. Mr. Baxter's responsibilities will include coordination of domestic marketing through use of Sperry's 250 VARs and 14 distributors and Burroughs' 130 VARs and 3 distributors.

As for the head of Sperry's Reseller organization, Michael Battaglia will leave the company at the end of January, just as the merger is completed.

According to UNISYS, a decision to drop some VARs has arisen due to overlapping sales and/or product lines. This action will be carried out independent of the merger proceedings.

The Vendor Partnership Program: DEC'S New Service Opportunity . . .

DEC's Field Service Vendor Equipment Services (VES) group announced the Vendor Partnership Program (VPP) for plug-compatible manufacturers (PCM). Groups targeted for this program are licensed VAXBI vendors, high volume UNIBUS vendors, QBUS vendors, and vendors with established marketing agreements. The VPP program is designed to help DEC sales by offering service and support to key PCM sales channels.

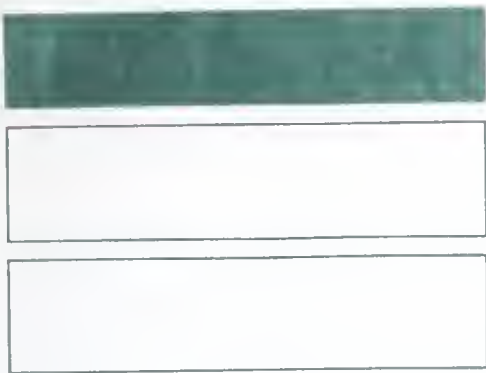
The Vendor Partnership Program is described as an extension of DEC's Multi-vendor DECompatible Service with DEC Field Service acting as the "service agent" for the manufacturer. The program will provide agreement to install and service selected vendor equipment which is currently residing on DEC systems and/or networks. Within this commitment, DEC allows the vendor to advertise DEC service which in turn creates a marketing tool for their products to increase sales.

VPP partners can expect the same level of service whether the product is VAXBI-compatible or DEC's own product. Through the VPP, a mutually beneficial relationship will be established between DEC and manufacturers of non-competitive, complementary products. Both parties will make significant investments in this relationship.

The VVP has been developed to promote the sale of DEC system solutions by offering both parties sales incentives. The incentives for the vendor include leveraged sales, new market opportunities, sales promotion, and DEC service. On the other hand, DEC's incentives include new market penetration, new sales, customer and service penetration, and reduction of entry risk to DEC's Field Service.

* * * * *

INPUT's SERVICE UPDATE is a monthly publication highlighting industry issues of interest as reflected by clients' inquiries to our hotline staff. To learn more about what we have to offer, call our Mountain View, CA office at (415) 960-3990, 8 a.m. to 5 p.m. PST, Monday through Friday, or leave a message with our VoiceCom message service at (415) 544-2338.



INPUT[®] Service Update

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A Monthly Publication from INPUT's **Customer Service Program**

February 1987

INPUT's Service Update Takes a New Form!

Starting in March, INPUT's Service Update will change its format, signaling a new direction in the scope and context of this monthly deliverable. First, the newsletter will add in-depth discussion and analysis of specific service topics of significant concern to service management professionals. Examples of topics to be covered include extended warranty, tax legislation changes, and pricing practices and their effects on service business. Each issue will cover a topic in-depth, providing industry reaction and INPUT's own analysis.

In addition, the new format will continue to report significant questions of concern as they come in through the CSP Hotline, including mergers/acquisitions, competitive trends, and policy changes. The newsletter will also continue to keep readers informed of research deliverables, including brief synopses of future studies and planned delivery dates. We hope you will like the new format, and invite you to call us with any comments!

New Report on Automated Service Delivery due in March...

In March, INPUT will deliver a new study on Automated Service Delivery, which analyzes the growing use of field service management software in the management and delivery of service to users. The report will analyze current products on the market, including software programs developed in-house and purchased from software vendors, as well as new hand-held terminals that have become increasingly vital in the reporting, dispatching, and delivery of service calls. The report continues by exploring the future of automated service delivery, such as the integration of remote diagnostics and support implementation into business management systems.

Research for this study has already been completed, and each client will be contacted with preliminary results from the research. The final report will be delivered to clients at the end of March.

Support Charges for Ada Software...

Developed as a result of a competition sponsored by the Department of Defense (DoD), Ada is a general purpose language with facilities integrated to support government programming practices. The competition focused on the development of a language for programming embedded systems, which could also work to cut software costs by increasing the maintainability, reliability, portability, and ability of the system to evolve.

Ada emerged as a language suitable for applications such as systems-, computational-, general-, and most essentially, real-time programming, with the ability to lower software life cycle costs by providing for modularization and separate compilation.

Features of Ada include strong typing, data abstraction, concurrent processing, separate compilation, generic definition, and exception handling. Additionally, Ada provides a comprehensive diagnostic messaging capability that includes automatic syntax error correction.

A recent request was made to compare Ada support pricing across large system manufacturers...

DEC charges differing rates for Ada support varying with the hardware on which Ada resides, and prices installation separately at \$380. The three levels of software support offered by DEC are priced as follows:

	DEC Support	Basic Support	Self Maintenance
MicroVAXII	\$227	\$209	\$ 92
8200	375	281	136
8600	408	317	148
8700	437	317	153
8800	456	342	153

DATA GENERAL's Ada support pricing strategy differs from DEC's in that DG does not charge an installation fee. Also, charges for support are constant for all DG machines:

MV 4000	\$200
MV 8000II	\$200
MV 10000	\$200

HARRIS Ada support pricing includes installation:

HCX-7	\$500
H1200	\$500
MCX-5	\$300

SEQUENT does not directly offer support for Ada, but rather relies on VERDIX of Reston, VA, their supplier of the Ada package.

IBM System/36 Maintenance Pricing Samples....

A recent survey of monthly maintenance charges from three of the top TPM vendors provided an informative cross section of the current System/36-market pricing. Popular CPU models, terminals, printers, and tape unit configurations were used for the pricing comparison. None of the three companies involved in the comparison consistently provided the lowest-priced service:

CDC offered the lowest service pricing on the 5360 models as well as the 5364 models. A discount of 15% on IBM pricing is given by CDC for System/36 CPUs, printers, and tape units, while terminals are discounted from 10-25%.

TRW service pricing is quoted directly from IBM pricing sheets. TRW will, however, discount competitively between 15-20% to get the bid.

Overall, UNISYS charged the lowest rates for the System/36 configurations. Discounts for System/36 CPUs were in line with TRW and CDC, at 15%. However, UNISYS discounts terminal pricing 15-28%, printers 20%, and tape units 25%. UNISYS does not cover the entire System/36 line at this time, but in the future will increase product coverage.

Some examples of pricing on specific System 36 units:

CPU	IBM	TRW	CDC	UNISYS
5360				
-C2M	\$324.00	N/A	\$275.50	N/A
-B1A	247.00	N/A	210.00	N/A
-B13	150.00	N/A	127.50	\$128.00
5362				
-A01	60.00	60 .00	51.00	51.00
-A02	70.00	70.00	59.50	60.00
-A03	85.00	85.00	72.50	72.00
-A04	105.00	105.00	89.50	89.00
5364				
-001	48.00	48.00	41.00	N/A
-002	48.00	48.00	41.00	N/A
-021	48.00	48.00	41.00	N/A
-022	48.00	48.00	41.00	N/A
TERMINALS				
5251				
-012	47.00	44.00	37.50	34.00
5291				
-002	9.58	9.58	8.60	8.00
5292				
-002	42.75	39.58	36.50	35.00
PRINTERS				
5224				
-001	57.00	53.00	48.50	45.00
5256				
-001	57.00	53 .00	51.50	45.00
TAPE UNIT				
8809				
-1C	78.00	73.00	64.00	58.00

Service and Support Trends in Retail Chains...

BUSINESSLAND, Inc. has begun efforts to increase the size of its support operations, planning to bring the number of support people to an equal level with the sales force. BUSINESSLAND's ultimate goal is to employ a sales and support staff large enough to make joint sales calls possible on corporate accounts.

Other retail chains are noting the trend toward enlarging support operations. PACTEL Infosystems notes that when a machine is sold, the profits are split between the manufacturer and PACTEL. The sale of service contacts, on the other hand, contribute directly to the bottom line. PACTEL sees its real business not as computer system sales, but in the service and support functions it performs, and BUSINESSLAND (along with other chain retailers) are beginning to see the wisdom behind this approach to retailing.

DEC's New VAX Software Portfolio...

DEC has developed a "software portfolio" offering for low-end technical and commercial applications development. The benefit of the software portfolio license lies in its ability to easily justify the purchase of new and existing products, providing users with a single license fee for a large number of software products. In addition, the software portfolio gives customers access to more industry software products and productivity tools to incorporate into their software development environment.

The VAX software license portfolios are divided into three packages or "portfolios." These portfolios offer a new approach to packaging, pricing, and licensing of software products:

Package 1 - Base Program Development Portfolio

VAX APL	VAX DEC/CMS	VAX Language-Sensitive Editor
VAX ACMS	VAX COBOL	VAX DEC/MMS
VAX Baseview	VAX Datatrieve	VAX Notes
VAX BASIC	VAX DBMS	VAX Pascal
VAX BLISS	VAX FMS	VAX Performance/Coverage Analyzer
VAX C	VAX FORTRAN	VAX PL/1
VAX CDD	VAX GKS	VAX Rdb/VMS
VAX RPG II	VAX RSM	VAX SCAN
VAX Source Code Analyzer	VAX Teamdata	VAXELM Toolkit
VAX DEC/Test Manager		VAX TDMS

PACKAGE 2 - Extended Program Development Portfolio

This package licenses users to use all products in Package 1 as well as the following:

VAX Ada	VAX OPS-5	VAXELN Ada	VAX RALLY
VAX COBOL Generator	VAX LISP	VIDA	

PACKAGE 3 - Program Development Portfolio RTO

This program is designed for run-time environments and is only available for MicroVAX II. Licensed customers can use any of the following products:

VAX ACMS Run-Time Option	VAX Notes	VAX CDD
VAX Rdb/VMS Run-Time Option	VAX Datatrieve	VAX FMS
VAX Teamdata/Rally Run-Time	VAX TDMS	VAX GKS
VIDA	VAX DBMS Run-time Option	

Systems are licensed individually and vary in price per portfolio. Once a license is purchased, the customer needs to purchase the appropriate H-Kits (media and documentation packages) for products in the portfolio.

Pricing for the VAX software portfolio:

	MicroVAX II	VAXstation II
Program 1	\$2,175	\$545
Program 2	3040	760
Program 3	680	N/A

Update on HALTRONICS profile...

A recent inquiry to HALTRONICS Corporation, one of the 120 third-party maintenance vendors profiled in our 1986 TPM binder, revealed that a recent strategic decision was made to drop IBM from their menu of brands serviced. Previously, IBM, along with a list of other large system peripheral manufacturers was supported via HALTRONICS' nationwide depot support, but mounting problems with parts acquisition dictated the withdrawal of support. The company, based in Chatsworth, CA, will continue to offer remedial maintenance, change order installation, and refurbishment work on NCR, HONEYWELL, SPERRY/UNISYS, and compatible peripherals.

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Service Update

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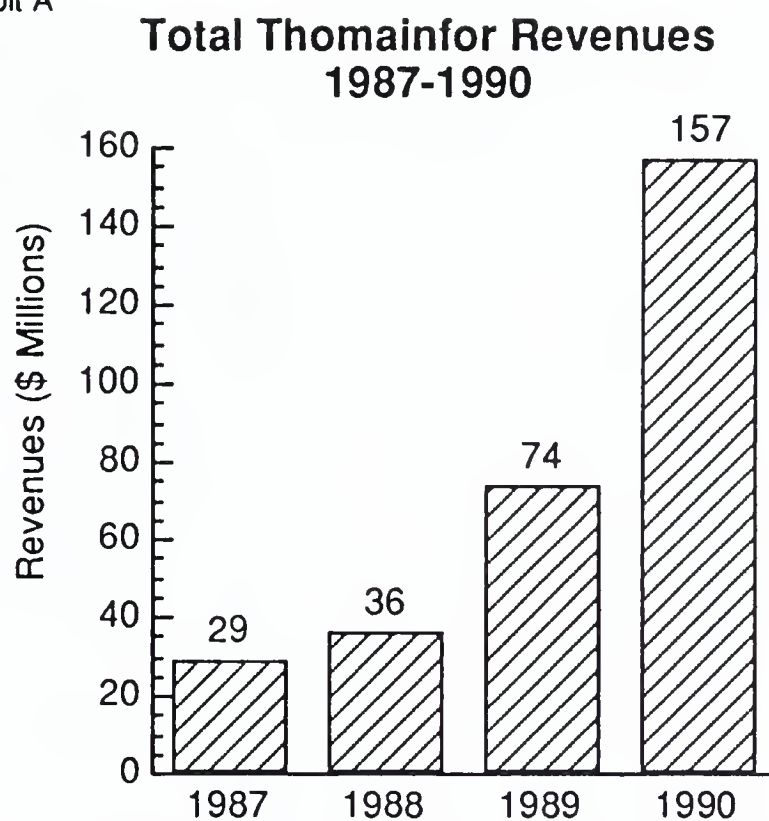
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- 6 U.S. News
- 7 Questions from the U.S.

Thomainfor Revisited

In August of 1989, INPUT profiled Thomainfor, the French third-party maintenance vendor, and described the strategic direction being pursued by the company. Now, some 17 months later, INPUT is revisiting the company to discover the extent to which the strategy has been maintained.

Thomainfor, whose parent company is Thomson-CSF, was originally profiled shortly after it had acquired the European arm of Control Data's TPM operation. The news of the acquisition was released in the middle of June 1989, and it was instrumental in establishing Thomainfor as an independent maintenance provider of fully European dimensions. Exhibit A indicates the effect that the Control Data operation had on the revenues of Thomainfor. In

Exhibit A



Note: Currency conversions and rounding by INPUT.

Continued on next page

Thomainfor...from page 1

terms of geographic coverage, Thomainfor had a very strong presence in France, and coverage in Germany, Austria, Switzerland and the U.K.

The Strategy

The strategy, as defined in 1989, primarily consisted of five components:

- Growth through acquisition. Thomainfor achieved a pan-European status largely through the acquisition of the Control Data operation, and it was made clear to INPUT that acquisition was considered to be the major engine for growth.
- Thomainfor would concentrate on establishing expertise in the maintenance of the equipment of the principal manufacturers such as IBM, Digital and Bull. However, it was intended to put special emphasis on the minicomputer sector of the market and to develop a high level of expertise in UNIX products.
- The target customer groups were

defined as large or medium-sized organisations. The company clearly stated that it was not particularly keen to sign up small customers.

- In addition to the European countries in which it already had a presence, Thomainfor indicated that its longer-term goal was to establish operations in each country within the European community, with particular emphasis upon Spain, the Netherlands, Belgium and Italy in the short to medium term.
- Finally, the company stated that it was looking to achieve what it described as a "critical size"—which was defined as being a turnover of between \$6.5 million and \$8 million—in every country market that it entered.

The strategy was both comprehensive and ambitious. How far has the company progressed and to what extent have its strategic goals proved to be achievable?

The Implementation

Exhibit B illustrates the progression of Thomainfor's revenue forecasts for 1990 made during the course of 1989 and 1990, compared with the figures actually achieved, and it provides valuable insight into the company's continuing growth pattern during the year.

Growth through Acquisition

The actual 1990 revenue figure represents an increase of 52% over the initial forecast made in August of 1989. Thomainfor's revenues have increased by

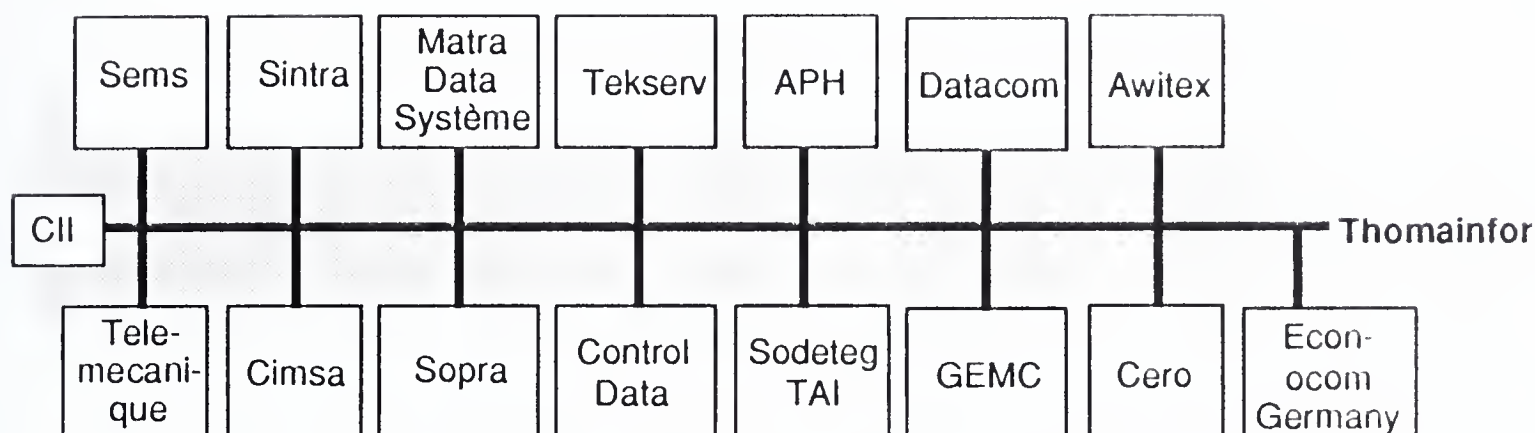
Exhibit B

Thomainfor Revenues for 1990—Forecast and Actual

Country	Date of Estimate			Actual 1990
	Aug. 1989	Jan. 1990	Dec. 1990	
France	90.0	123.7	123.7	124.1
West Germany	5.5	7.4	12.0	11.0
Switzerland	0.7	0.9	0.9	1.0
Austria	3.0	5.0	5.0	5.0
United Kingdom	3.8	4.8	4.8	4.2
Belgium	-	8.7	8.7	7.9
Spain	-	1.9	5.0	3.8
Total	103.0	152.4	160.1	157.0

Exhibit C

Thomainfor—The Constituent Companies



approximately 112% over its 1989 earnings, which can only be described as an extremely rapid rate of growth.

The number of forecasts and the scale of growth achieved can be explained by the number of acquisitions made by the company during the course of the year. Examples include Awitex and Econocom in Germany, which more than doubled the anticipated revenues of the German operation and increased the number of branch offices from 7

to 15. The French operation was strengthened with the acquisition of Sopra and Matra Datasystème, and Thomainfor gained a presence in Belgium through the acquisition of Tekserv and GEMC. The acquisition of CERO has given the company a foothold in Spain.

Exhibit C shows the acquired companies that make up Thomainfor and the full extent of the aggressive policy of growth pursued by the company.

It is clear from the pattern of purchase that the cornerstone of Thomainfor's strategic intent, to grow through acquisition, has been applied consistently and aggressively during the course of 1990.

A Pan-European Company

In addition to illustrating the revenue growth of the company, Exhibit B also shows the expansion of Thomainfor's

Continued on next page

Exhibit D

Geographic Expansion

1989 Position		Medium-Term Target	Long-Term Target
France *	Achieved	Belgium	Luxembourg
Germany		Spain	Portugal
U.K.		Netherlands	Ireland
Austria *		Italy	Denmark
Switzerland			Greece

Thomainfor...from page 3

geographical coverage. Exhibit D illustrates the progress made in 1990 towards the stated goal of pan-European coverage.

It should be noted that the acquisition of GEMC in Belgium has given Thomainfor a presence in Luxembourg.

The growth of the company during 1990 illustrates the very considerable progress made in achieving its medium-term targets and provides a valuable illustration of the extent to which Thomainfor has sought to implement its stated strategy. However, in addition to not having covered all targeted countries, the company is some

only France, Germany and Belgium have reached this goal.

Product Expertise

Exhibit E lists the major product areas in which Thomainfor currently has expertise. The company has remained true to the product strategy as defined in 1989. Establishing expertise in workstations was made possible by the acquisition of the French company Matra Datasystème, which had expertise on the Sun workstation product range. Although these products appear to fall outside the range of activities included in the original strategy, the possession of such expertise considerably furthers the acquisition of UNIX skills.

maintenance vendor in Europe, behind Granada, and the largest single supplier in France. In common with other major vendors in the market, the company has achieved its position as a result of a period of intense acquisition activity. In reviewing the performance of the company over the past 17 months, it should be noted that the implementation of the strategy has remained very true to the original plan and that considerable progress has been made towards achieving the major goals the company set for itself. Growth has been spectacular, and the company is now firmly established as one of the principal players in the market.

Two questions remain. Firstly, will the company continue to seek aggressive growth rates, supported by acquisition, in order to achieve its remaining goals? The company has yet to establish a presence in either the Netherlands or Italy and is some way short of achieving a "critical size" within the majority of its European operations. Secondly, will the constituent elements of the company be able to offer quality service and responsiveness to its customers after a period of dramatic growth and consequent change within the organisation?

In answer to the second question, it is too early to offer a judgment. Obviously, the absorption of a significant number of companies into a large and growing corporation involves change and potential dislocation, which leads to potential decline in standards of

Exhibit E

Thomainfor Product Expertise

Manufacturers	Equipment Categories	Software
IBM	CPUs	UNIX
Digital	Peripherals	VMS
Bull	Workstations	MVS
Sun	Microcomputers/PCs	GEOs 6/7
ATT	Networks	MS/DOS
All Major Minicomputer Manufacturers		PROLOGUE

way short of achieving a "critical size" of earnings of at least \$6.5 million in each of the country organisations. To date

The Future

Thomainfor is currently the second-largest independent

service. Although there is little doubt that the company's dynamism demonstrates a strong will to succeed, the strength of these factors should not be underestimated. It is too early to offer a judgment on eventual success at this stage in the company's development. However, it will be instructive to watch the continuing evolution of the group.

With regard to the first question, INPUT anticipates that despite the strategic targets still to be met, 1991 will be a significantly quieter year for Thomainfor than 1990. Two factors influence this conclusion. Firstly, it is suggested that Thomainfor appreciate the need for a period of absorption to allow the newly acquired parts of the

organisation to be effectively assimilated into the whole. Secondly, the current world outlook is far from conducive to a period of continuing aggressive acquisition. Although there is little reason to doubt Thomainfor will continue to pursue its strategic goals, the pace of growth is likely to slow appreciably. ■

Snippets

- ❖ **Granada Computer Services** has won a contract to service Amdahl equipment. Valued at over £250,000 per annum, the contract has been awarded by Granada Information Services. The computer services division already maintains IBM and Memorex-Telex equipment but not, until now, the Amdahl mainframes.

Evidence is growing that U.K. local government is increasingly looking at facilities management contracts. The local government IT managers group estimates that up to 20% of councils will be exploring the use of facilities management. This data is supported by the fact that both Westminster, and Hammersmith and Fulham Councils are actively considering a move to facilities management.

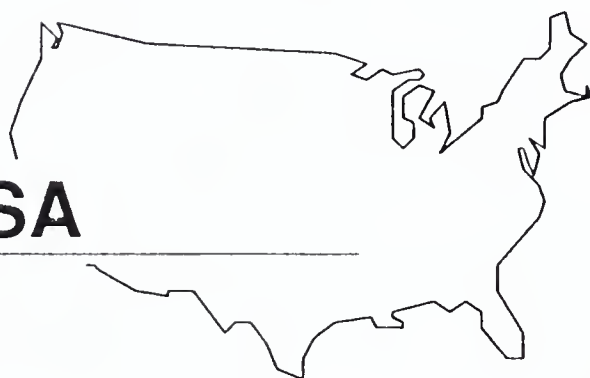
- ❖ **Data General** has announced that it will be offering the capability of serving Sun Microsystems equipment. It is reported that DG has entered into an agreement with Apex Computer Inc. in the U.S., who will provide training and inventory support.

- ❖ **Digital** has retained its largest third-party maintenance contract despite competition from IBM. The contract with Westland, the U.K. helicopter manufacturer, is worth roughly £2.5 million and covers all Westland computer equipment, with the exception of its IBM mainframes.

- ❖ **SD-Scicon**, the U.K. systems house, is reported as having reduced its PC maintenance support prices. The company offers a premium service providing on-site response within four hours and handles software support for some proprietary programs and a data recovery service within the overall maintenance contract.

- ❖ **LIFFE**, the London International Futures Exchange, has awarded its computer maintenance contract to Switch, a small London-based independent maintenance company with 15 employees and a turnover of approaching £1 million. A key factor influencing the awarding of the contract is the up-time guarantee offered by Switch. ■

News from the USA



Bell Atlantic Announces MAXwatch SM

On 5 December 1990, Bell Atlantic Business Systems Services announced MAXwatch SM, a systems integrity monitor for DEC VAX/VMS hardware.

MAXwatch monitors all network or clusterwide VAX systems and DEC or DEC-compatible peripherals. The

system features call home capabilities, customer monitoring and notification thresholds, and can perform automated remedial actions in response to errors.

When certain critical errors occur, MAXcall SM automatically places a call to Business Systems Services' Technical Support Centre. The service call is immediately logged and processed for remote diagnosis and support. A field engineer can also be dispatched with the parts needed for repair.

MAXwatch software's reporting functions allow error history reports to be generated for any device over a specified period of time. Preventive maintenance can be scheduled as a result of hardware performance analysis.

MAXwatch is available at no charge as part of standard hardware service for VAX maintenance customers running version VMS 4.0 or later.

Novadyne Announces Remote Monitoring

Novadyne Computer Systems, Inc. recently announced Remote Monitoring, a proactive diagnostic system that regularly dials into a Tandem customer's computer system and identifies potential problems.

Key features include automatic dialing to the system, an analysis of error information, password protected/encrypted database security, and comparison of current data to history files to identify abnormalities.

Remote Monitoring improves systems productivity by identifying possible failures and scheduling repair at the client's convenience, before serious system failures occur.

Integrated Securities Program Announced by DEC

Digital Equipment announced an Integrated Security Program, formalizing Digital's commitment to information security and integrated security architecture for distributed, multivendor systems.

The Integrated Security Program is a series of security enhancements packaged for single systems, LANs, and management services to assist

organisations in implementing effective security controls.

The program addresses system and user identity verification, integrity of shared software and data, and confidentiality of sensitive information stored or transmitted across networks.

With these newly integrated security products, capabilities, and services, customers can choose the levels of security appropriate for their applications and organisations.

Help Desk System Software Available for BusinessWise

With the growth of internal help desks to field user problems, many companies are adding help desk software to their list of required software.

One of the offerings currently available to assist the internal help desk in the management of enquiries is SupportWise for BusinessWise. SupportWise offers telephone support system technology to quickly identify callers, capture call information, dispatch action requests and letters, maintain call history and client information, and allow access to prior calls, technical notes, and customer configuration information. SupportWise has been designed for the high-volume shop, supporting complex situations such as network installation and support. The Tech Notes search facility assists in the retrieval of technical bulletins and product notes. ■

Questions from the USA



Question:

What does Affiliated Computer Systems (ACS) offer for ATM maintenance service?

Answer:

ACS Field Electronics provides service on NCR, IBM, Diebold and Docutel ATMs. Customers can choose a combination of First Line, Second Line, and Cash Replenishment services to meet their requirements.

First Line maintenance includes repair of card or form jams, replacement of forms, maintenance of ATM appearance and surrounding area, unlimited number of calls, clearance of dispenser jams, customer selection of hours of service coverage, and no mileage surcharge for ATMs outside metropolitan areas.

Second Line maintenance includes four preventive maintenance inspections a year, customer selection of hours of service coverage, elimination of extra billings, rapid response to service calls resulting in improved ATM availability and increased transaction revenue, money-back guarantee in timely responses, network/communications support, monthly reporting on each

ATM, unlimited number of service calls, no mileage surcharge for ATMs outside metropolitan areas, ATM camera maintenance, and two preventive maintenance camera inspection and test shots a year.

Cash Replenishment Services include ATM cash replenishment and balancing, return of captured cards, emergency cash replenishment, and deposit return where applicable. ■

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, and systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Safetynet—A Disaster Recovery Specialist

Disaster recovery is a subject that has attracted considerable interest in the recent past among both customer services and professional services vendors. In order to understand the current market position, INPUT is taking this opportunity to profile Safetynet, a disaster recovery specialist that has gained an established position within its target niche.

Safetynet Limited is a U.K. company that commenced trading in April 1986. It has, up to this point, concentrated exclusively on the IBM midrange customer base, although consideration is being given to expanding the scope of products that are manufacturer independent. Exhibit A shows the range of hardware currently supported, and the products

that the company is considering for the future.

The degree to which the company can be expected to continue to attack its market niche is clearly indicated by the advertised mission statement:

"To be the European Leader in the IBM Midrange Disaster Recovery Market."

Geographic Expansion and Coverage

The company currently has over 200 customers in the United Kingdom, with contracts that will generate over £8.9 million in revenues during the first half of the 1990s. Having established a solid position within the U.K. market-place, Safetynet began actively to pursue the target inherent in its mission statement

Exhibit A

Hardware Ranges Covered

- Current
 - IBM
 - System/38
 - AS/400
- Potential
 - IBM
 - RS6000

with the formation of Safetynet International Limited during the latter half of 1988. Exhibit B shows the extent to which the company has succeeded in expanding its geographic

Continued on next page

Safetynet...from page 1

coverage over the past two years. It also illustrates quite clearly that the Continental European market has been targeted first in the company's international expansion plans. The company also expects that a

CINSA in Spain, which ranks as IBM's largest Spanish agent. The use of franchising provides two key advantages for Safetynet. Firstly, it allows the company to select franchisees that possess a high level of technical expertise in the IBM midrange market-place and,

Exhibit B

Geographic Coverage

Year Operation	Country	Company Name	Relationship with Parent	Location/s
1986	U.K.	Safetynet Ltd		Finley, Surrey Chiswick, W. London Manchester
1990	France	Safetynet France SA	Wholly owned	Paris
1989	Spain	CINSA	Agent	Madrid
1990	Italy	GMI	Agent	Milan
1990	Denmark	Cominvest A/S	Agent	Aalborg

Proposed: Norway, Sweden, Germany, Holland, Far East

wholly owned German operation will be established in Frankfurt during the course of 1991 together with a presence in the Dutch market.

The methods adopted to gain footholds in foreign markets include the formation of wholly owned subsidiaries such as Safetynet France SA and the use of franchising agreements with such companies as Cominvest in Denmark, GMI in Italy and

secondly, it can concentrate exclusively on potential partners that have an existing coverage of the target market. Both factors can be achieved without the very high capital outflows and problems of cultural integration inherent in an aggressive acquisition strategy. Although the company is willing to contemplate partnership agreements, it does not intend to use acquisition to achieve geographic expansion.

Financial Performance

Exhibit C illustrates the revenue growth of Safetynet, complemented by the pre-tax profit figures shown in Exhibit D. The company's very healthy revenue growth figures can partially be explained by the fact that it is competing in a market that is in a high growth phase of its lifecycle: INPUT estimates that the European disaster recovery market will grow by 25% between 1990 and 1995. However, the inherent financial strength of Safetynet is indicated by the pre-tax profit margin. Excluding the first year of operations, the profit margin has never fallen below 22%. These figures have been returned despite a significant investment programme in new hardware of over £1 million at the end of 1990.

The company's impressive financial record indicates the returns that can be made within the disaster recovery market by adopting and executing a well considered strategy.

The Services

Disaster Recovery

The disaster recovery service obviously lies at the core of Safetynet's activities. The company stresses that it is not simply in the business of supplying replacement equipment in the event of a disaster. A full range of services are offered, including active disaster prevention programmes and disaster contingency planning and implementation.

Exhibit C

Turnover and Revenue Growth 1987-1991

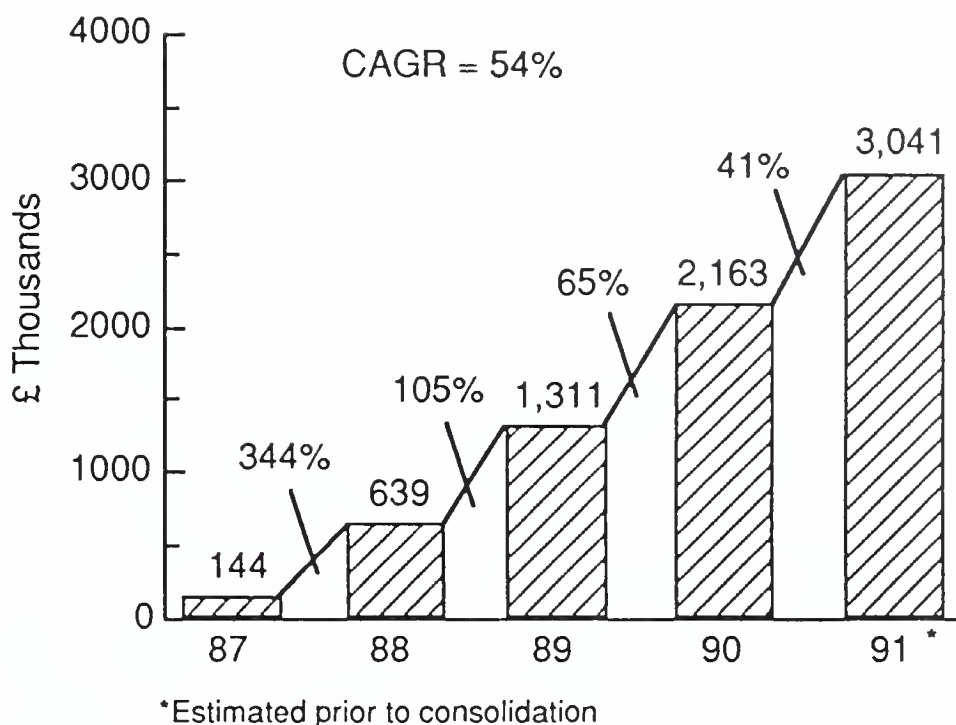
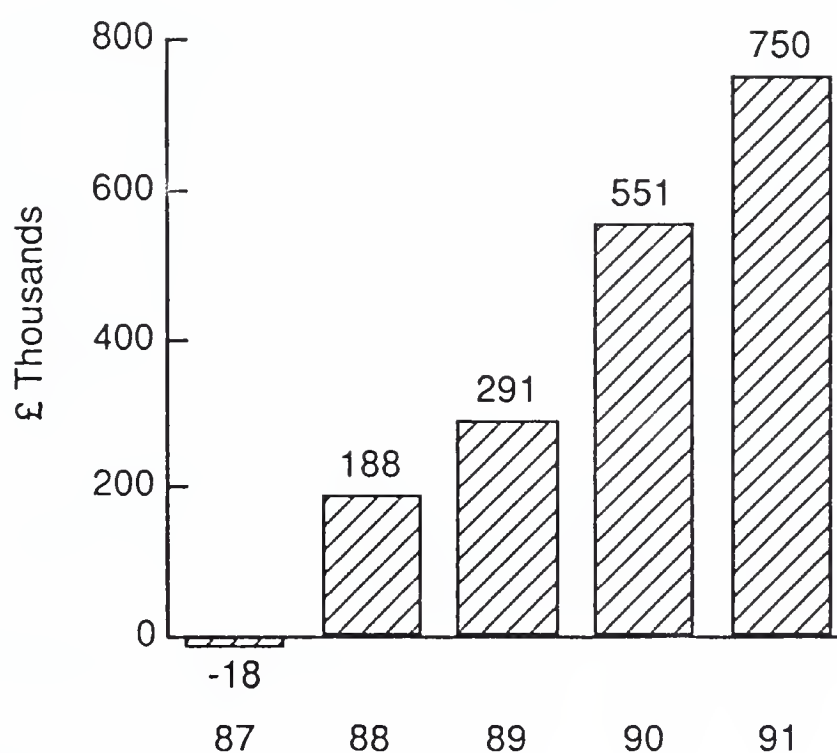


Exhibit D

Pre-Tax Profits 1987-1991



Continued on next page

Safetynet...from page 3

The constituent elements of the disaster recovery service are listed in Exhibit E.

- *Prevent.* This element of the service is designed to achieve two key objectives:
 - To ensure that a disaster recovery plan is in place. Safetynet's own research indicates that up to 60% of users now have some form of disaster recovery plan, which is largely influenced by legal requirements within the financial services industry and by the interest of auditors in the subject.

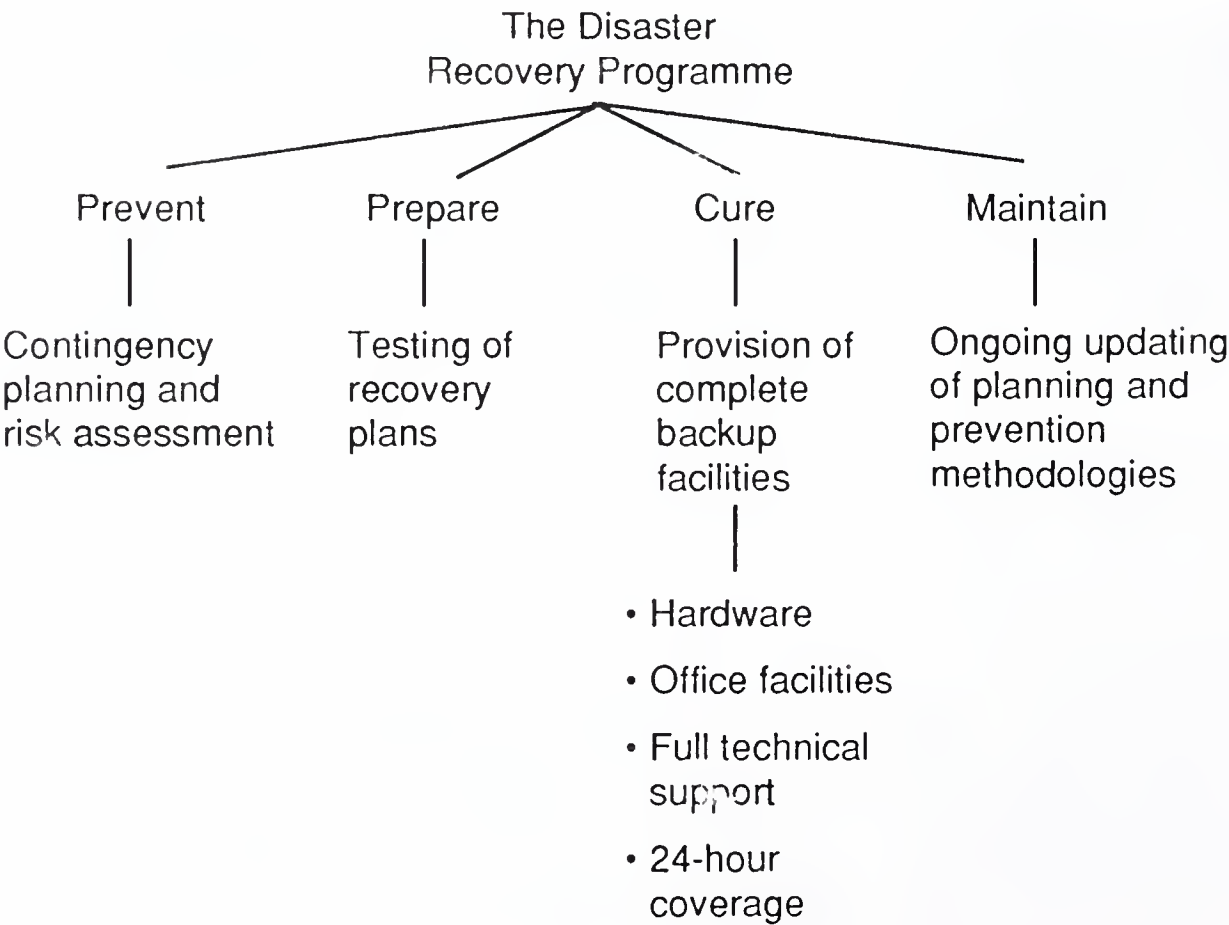
The existence of a properly considered plan is a pivotal factor within a disaster recovery programme, and Safetynet therefore puts considerable emphasis on assisting clients in the development of such plans.

- Of equal importance to the existence of a disaster recovery plan is the attention that Safetynet pays to the area of disaster prevention. Risk assessment and preventative planning are considered by the company to be intrinsic elements of a complete disaster recovery service.

- *Prepare.* If a disaster recovery programme is to meet the requirements of the client, the plan should be tested on a regular basis to ensure that it will work in practise. The inability to activate the plan in the event of a disaster could be fatal to a business. However, Safetynet's research indicates that up to 43% of users who have a disaster recovery plan in place have never tested it. Testing is therefore regarded as a key element of the Safetynet service.
- *Cure.* The service provided to clients in the event of a disaster is twofold:

Exhibit E

The Complete Disaster Recovery Package



- A systems platform is made available that can be accessed either through office suites in Safetynet's Recovery Centres or through the use of dial-up telecommunications links from the Recovery Centre to the client's own premises. The company has an average of between 20 and 30 contracts per system, with a ceiling of 50, and it estimates that the probability of failing to have a system available to meet contractual obligations is approximately 1 in 2 million.
- Safetynet offers technical expertise both in an overall support capacity and, more specifically, to assist in the restoration of full systems availability, including the rebuilding of databases. The company estimates that, owing to the infrequency with which clients are called upon to perform complete system restores, the operation takes an average of 20 to 30 hours for a midrange system. Safetynet, however, performs such operations very regularly and maintains an average of approximately six hours.
- *Maintain.* Safetynet has a programme of reviewing both the contingency and preventative plans of its clients, to facilitate the on-going application of technical developments to the service supplied. This element of the service package clearly illustrates the importance that Safetynet attaches to

maintaining strong client relationships.

Telenet Security

Telenet is complementary to the core product and supports the disaster prevention services offered by Safetynet. In response to research findings indicating that up to 82% of users use unattended systems, the company has introduced a product that detects power spikes, temperature fluctuations, and the presence of water and smoke. Telenet alerts a 24-hour monitoring service to allow appropriate action to be taken and will also, in the case of the AS/400, activate the automatic power down procedure. The use of such a product limits the scale of a potential disaster affecting unattended or remote locations.

Consultancy Services

Safetynet's consultancy services are principally designed to reduce companies' exposure to risks potentially able to affect severely the operation of computer systems. In addition to offering assistance in the prevention of the more dramatic disasters traditionally associated with disaster recovery, such as fire and flood, the service also encompasses such elements as computer fraud and crime prevention and consideration of the impact of hardware and software problems.

Strategic Opportunities

Safetynet has placed itself in a position where it is able to

pursue a number of strategic opportunities. The provision of a premium disaster recovery service has necessitated the development of technical excellence in the areas of systems operations and support. The need to maintain systems within the company's Recovery Centres at current revision levels also implies the ability to assimilate rapidly new technical developments and issues.

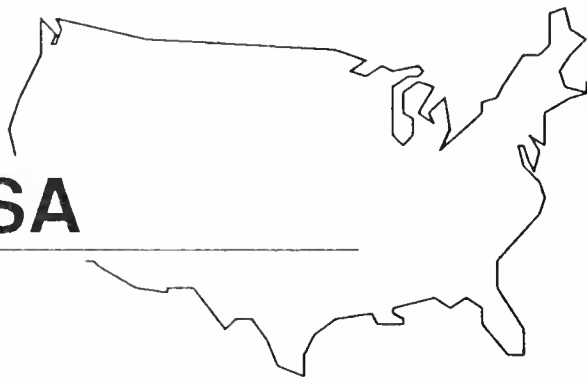
The breadth and depth of technical skills developed by Safetynet on the IBM midrange products provides a strong base from which to attack many of the markets within both the customer services and professional services arenas. The company possesses the knowledge and expertise to provide systems software support and training and is extremely well placed to compete effectively in the area of environmental services consultancy. A further logical progression would be to move into the systems operations and facilities management market, which complements both the company's operational expertise and the disaster prevention service currently offered.

It is clear that Safetynet has kept its strategic options open. It will be a very interesting company to watch in order to assess the degree to which an organisation possessing both strategic vision and highly developed technical expertise is able to expand upon its current level of success. ■

Snippets

- ❖ The London Financial Times has reported that IBM is to market environmental consultancy in the U.K. Services offered will include assistance with policy formulation, and auditing and measurement services.
- ❖ Further to our article on Thomainfor in last month's *Service Update*, the company has announced a partnership agreement with Norsk Data. The two companies are merging their European maintenance operations, with Thomainfor taking a majority stake on the continent and a minority holding in the U.K. The combined European annual service revenues of the two companies will be approximately \$300 million.
- ❖ Safetynet has taken on 14 of the 15 disaster recovery contracts held by the Phoenix Disaster Recovery business of the U.K.'s JBA Computers Ltd, although Phoenix will continue to provide consultancy services.
- ❖ Granada Computer Services has announced its intention to concentrate on larger contracts. As part of this development, it plans to terminate 1,200 smaller contracts and to transfer others to the Microcare and Granada Microsystems subsidiaries of the company.
- ❖ It appears that Strategem has been successful in its bid to acquire Touchstone, the U.K. computer services company. The bid was complicated by the existence of an alternative offer from Getronics, but Strategem now claims to have control of 54% of Touchstone's ordinary shares.

News from the USA



U.S. Snippets

GE Computer Services offers repair and maintenance services on satellite earth station and terminal equipment. Four different levels of service are offered: On-site Services, which include on-site installation and maintenance service for satellite earth stations, communication equipment, terminals and printers; Advanced Exchange Service, where GE will ship overnight a replacement unit in

advance of receiving the failed unit; Unit Exchange Service, where a replacement unit is shipped within eight hours after receiving the failed unit; and Standard Depot Repair Service, where the failed units are repaired, refurbished, and returned within five days of receipt.

Apple Computer Corporation has recently initiated a toll-free customer assistance line called

the Customer Assistance Centre. The line, an 800 number, is not designed to be a technical hotline, but rather a backup for sales and support problems that have not been received by Apple resellers and dealers.

Wang Laboratories has consolidated its service offerings under one comprehensive programme called Life Cycle Services. None of these services is new; Wang's objective is to "have everybody aware that we offer the full range of services". Services can be purchased separately or as a customised package, and include maximum value analysis, feasibility studies, sociotechnical services, planning and analysis services, cable plant services, design services, implantations services, hardware and software services, and educational services.

Hewlett-Packard has enhanced its Dealer Premier Support program, adding support assistance, training, warranty, and subcontracting. Previously, there were only three ways a dealer could offer support services on HP equipment: Sell HP service contracts directly, service the equipment themselves, or subcontract with HP support services. The latter allows for weekly visits from HP representatives for the repair of warranted products.

Microsoft Corporation has announced Microsoft OnCall for Microsoft Basic, a 900 number that offers support, extended service hours, and minimal hold time. Also, newly available is a support line called Microsoft Quick-Basic, for clients new to the systems needing entry-level assistance.

Granada Computer Services Group has reorganised, removing Conor Kehoe from the position of chairman. The eight country divisions have been consolidated into two: Europe, headed by Peter Edwards and United States, headed by Art Baar. The two directors report to the new chairman, Derek Lewis.

As of 4 February 1991, Phoenix Technologies still has not finalised the purchase of TRW Customer Services. It was indicated that there are final details to be ironed out as a result of the merger. Phoenix Technologies fully intends to carry through the deal, although no indication was given as to when the deal will be finalised.

U.S. User Satisfaction

The following charts refer to comparative information from the U.S. user requirements studies completed in 1990. The traditional areas of system availability and response time are important criteria for the user evaluation of their service vendor.

For full information regarding the user sample and other information on the vendor's service, refer to the reports:

- *U.S. Large System User Requirements.*
- *U.S. Midrange System User Requirements.*
- *PC /Workstation System Requirements.* ■

Exhibit F

U.S. Midrange Systems User Satisfaction System Availability

	Percent Mean Required	Percent Mean Received	Difference	Percent Satisfied
Concurrent	94.1	97.2	-3.1	70
Data General	96.7	97.4	-0.7	61
Digital	97.2	96.6	0.6	65
Hewlett-Packard	98.4	97.8	0.6	77
IBM	98.1	97.8	0.3	81
All Midrange Systems	96.8	97.3	-0.5	69

Overall Sample: 109 users

About INPUT

Exhibit G

U.S. PC/Workstation User Satisfaction System Availability

	Percent Mean Required	Percent Mean Received	Difference	Percent Satisfied
Apollo	96.1	96.1	0	56
IBM	96.2	96.5	-0.3	50
Sun	96.5	94.3	2.2	33
All Other Systems	95.7	94.3	1.4	58
All PC/Workstation Systems	96.1	95.2	0.9	48

Overall Sample: 53 users

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IN THIS ISSUE:

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- 6DEC Announces Subsidiary in Eastern Europe
- 6Q&A
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Sun Microsystems Life After Hardware Maintenance?

The recent and dramatic emergence of Sun Microsystems as a major force within the European computer industry is well known. What is less well known is the degree to which the company has been able to develop a customer service product that addresses many of the challenges currently facing the service provider. A review of the company's service operation provides an opportunity to assess an approach that has taken advantage of the opportunities within the market to develop a successful service business.

Sun's service product differs in many important respects from that offered by other companies within the industry that have been established for a longer period of time. The purpose of this article is to highlight these differences and to provide an insight into the strategic approach adopted by Sun.

The Customer's Needs

The systems product marketed by the company provides a good example of the extent to which the concentration of service effort is evolving from hardware maintenance to software support. Although the equipment is technologically complex and innovative, it is highly modular in construction. Additionally, the use of workstations and servers implies that, with the exception of the server itself, the system is comparatively resilient to component failure. The company estimates that, although customers regard systems uptime as an issue, it is not of such critical importance as it is for traditional mini-computer users.

The combination of these factors implies that the hardware maintenance operation has become a largely routine activity.

However, the systems software platform is technically complex

and requires highly developed skills on the part of the support staff. The issue is not the use of UNIX, which the company regards as presenting a similar challenge to that posed by a typical minicomputer operating system. The principal problem is caused by the standard use of networking technology across the systems range, which requires the ability to provide software and networking support and consultancy to ensure that optimum systems performance is maintained.

The major challenge facing Sun was to design a service product that met the relative needs of the customer while taking into account the fact that the design of the hardware was not going to provide the company with the opportunity to earn significant revenues through the hardware maintenance activity. It should be

Continued on next page

Sun ... from page 1

noted that the short history of the company enabled it to develop a service product to meet current market requirements rather than having to adjust a well-established traditional customer services structure.

The Business

Exhibit A lists the revenue earning channels of the company's customer services organisation. Although not dissimilar in structure from that adopted by many companies within the industry, the relative emphasis placed upon the constituent products is substantially different. The major focus is on the professional services arm of the business, which is considered to be the product providing the greatest future opportunity.

Professional Services. Perhaps the most significant point to emerge from the offerings of the professional services channel is the stress put on UNIX and networking consultancy as a customer

services activity. It is commonly accepted that consultancy is one of the main products of the environmental services channel. It is somewhat less common to find a company that regards consultancy as a key factor within a crucial area of the business. The emphasis of the professional services activity is on the company's software products and further illustrates the fact that software support is at the heart of Sun's services offering.

Education. In addition to providing the range of services that would commonly be expected from an equipment vendor's education department, this channel provides a good example of the use of a key element of the company's customer services strategy—namely, the importance placed on outsourcing. Two of the stated responsibilities of the education department are to sell courseware and to recruit external authorised trainers. The development of multimedia training tools provides a considerable opportunity to channel the training

expertise of the company through external partners.

The Installed Base Group. The purpose of this group is to supply technical expertise to assist both the direct and the channel support sales forces in the ongoing support of existing customers. In addition to ensuring that adequate logistical support is provided to third-party sales channels, advice is also provided to ensure that customers are provided with technically viable equipment upgrades. Research findings from INPUT suggest that the failure on the part of equipment vendors to adequately support older equipment is a significant source of dissatisfaction among users. Providing a technically competent support team from within the customer services organisation is one way of ensuring that the needs of existing customers are satisfied on an ongoing basis.

Support Services. The means by which hardware and software support is provided is illustrated in Exhibit B. The use of a tele-

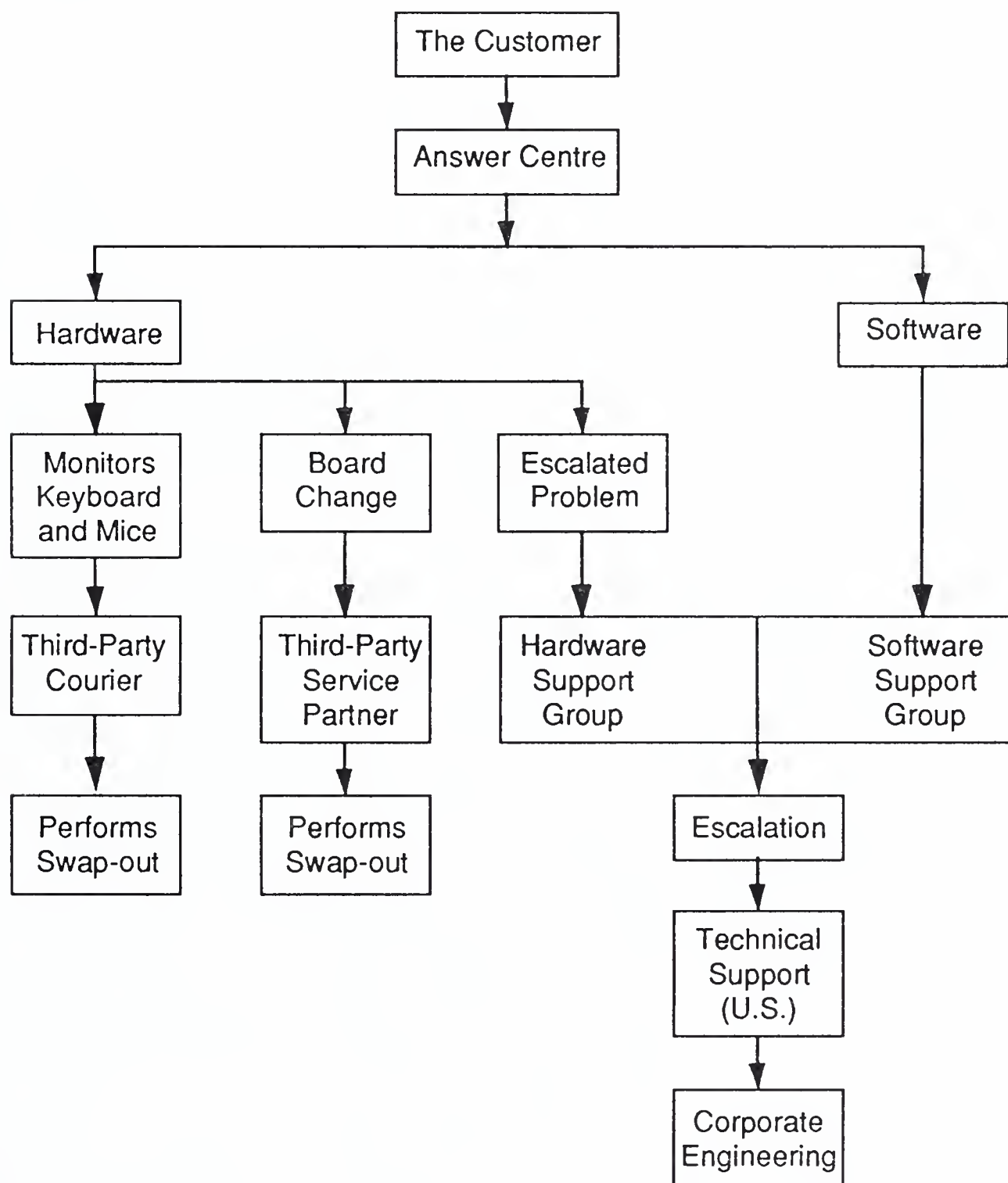
Exhibit A

The Service Product

<u>Support Services</u>	<u>Professional Services</u>	<u>Education</u>	<u>Installed Base Group</u>
<ul style="list-style-type: none">• Hardware Support• Software Support<ul style="list-style-type: none">- UNIX support- Network support- Systems administration- Systems tuning	<ul style="list-style-type: none">• Networking<ul style="list-style-type: none">- Design- Installation- Management• Software<ul style="list-style-type: none">- Consultancy- Device drivers- Gateways- General purpose	<ul style="list-style-type: none">• UNIX/Networking<ul style="list-style-type: none">- User- Systems administration• Programming• Selling Courseware• Authorised Trainers<ul style="list-style-type: none">- Outsourcing• Multimedia	<ul style="list-style-type: none">• Direct Sales<ul style="list-style-type: none">- Upgrades- Spares• Channel Support<ul style="list-style-type: none">- Spares

Exhibit B

Service Delivery Method



phone helpline as the primary means of providing software support is a tactic adopted by the majority of equipment vendors. However, the additional three levels of hardware service illus-

trate the particular approach that Sun is adopting for the provision of service.

The hardware support group is the one area of hardware service exclusively provided by Sun

employees. It is intended to concentrate in-house expertise within a specialist support group working closely with the parallel software support group to pro-

Continued on next page

INPUT

Sun ... from page 3

vide expert cover for escalated problems.

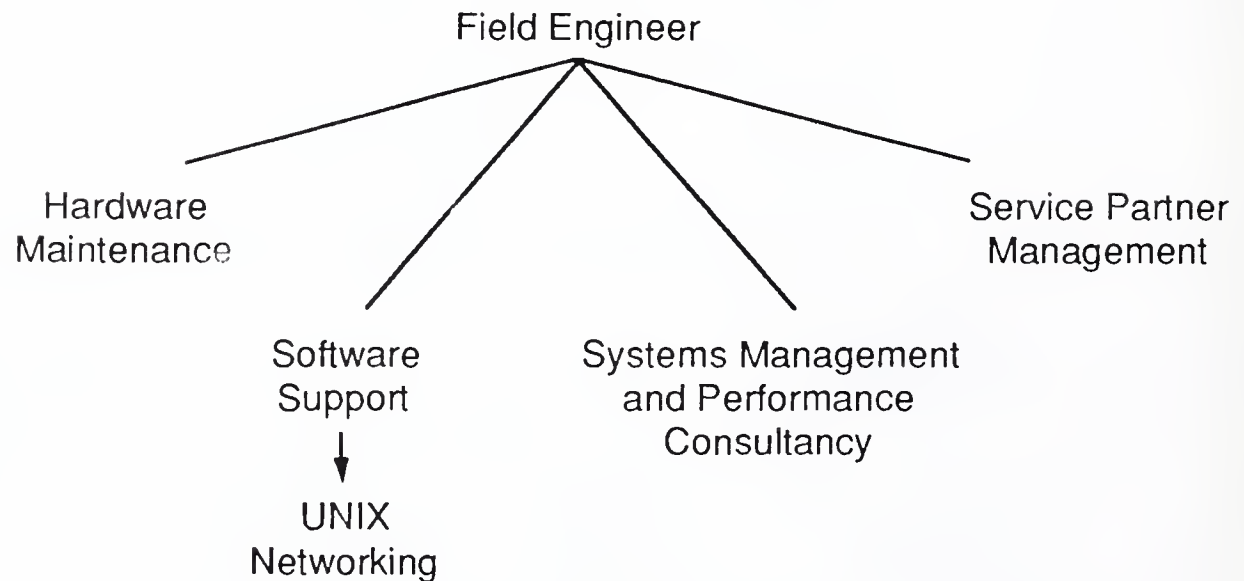
The company has identified the very different areas of expertise required to support the two levels of hardware field support. In the case of user interface units (keyboards, monitors and mice), faulty devices are simply replaced. The key criterion by which the quality of this aspect of the operation is judged is the speed of delivery.

Although the representative of the service provider will actually fit the new unit, the expertise required is principally in distribution. Sun will therefore employ third-party courier companies that possess more highly developed distribution skills than Sun itself can offer.

The use of service partners to replace parts at the component level is a logical extension of the same approach. In this instance, the principal factor governing the quality of service is the speed and efficiency with which the repair is effected. Although speed of transportation is obviously important, the critical factor is the ability to maintain a quality of service that meets the needs of the customer. This level of service therefore demands a degree of engineering ability; Sun uses the term "Service Partner" to describe independent maintenance companies that can consistently meet the technical demands placed upon them. Sun will increasingly use such companies in the future.

Exhibit C

The Emerging Role of the Field Engineer



The Service Concept

The service concept currently being adopted by Sun is essentially summarised by the following phrase:

"Find the people with the expertise and use them."

The strategy adopted by the company in pursuit of this aim can be divided into two components.

Outsourcing. An indication of the extent to which Sun will contract elements of its service package to third parties has been provided by the analysis of the products offered. This approach is being adopted quite deliberately by Sun to satisfy two key requirements.

In the first instance, the company has adopted the "core competence" approach to achieve the level of quality required of its service business. The overall goal of the business is maintenance of the customer's IT investment at an optimum level of performance. Within this overall objective, Sun's core competence is the ability to satisfy the technically

complex requirements of the customer in terms of both consultancy and problem resolution. However, it would not pretend to offer great expertise in, for example, the business of parts distribution. By developing partnership agreements, Sun has allowed its service partners to capitalise upon their own particular areas of expertise, thereby maximising the quality of the overall service package.

The second requirement determining the adoption of a strategy of outsourcing is the level of flexibility offered by the approach. The future needs of the business can be met more rapidly and effectively by developing partnerships with companies with existing levels of expertise rather than attempting to develop skills internally.

Although the company attaches much importance to outsourcing activities that can be provided more efficiently by external suppliers, it should be stressed that Sun retains total responsibility for the delivery of the total

service to the customer. All fault calls pass through the company's Answer Centre and Sun maintains ultimate control of all aspects of service.

Professional Services. As has been indicated, the company regards professional services as the key element of its service product, both in terms of future growth prospects and because it is the area of core competence. A principal factor that illustrates this importance is the emerging role of the company's engineering staff, as shown in Exhibit C.

Sun has been able to develop a range of skills within its engineering force because of the demands of the business and because of the comparative youth of the company. The range of services

offered by Sun, combined with the need to manage its extensive outsourcing commitment, has enabled the company to offer a much more varied technical career path than that provided by many of its competitors. The youth of the company has facilitated the development of a service product to satisfy current demand without having to change the mode of operation of the traditional field engineering structure.

Although the company does distinguish between hardware and software support staff, the fact that engineering personnel have developed a breadth of support skills substantially reduces the requirement to maintain separate functional responsibilities, thereby increas-

ing the company's operational flexibility.

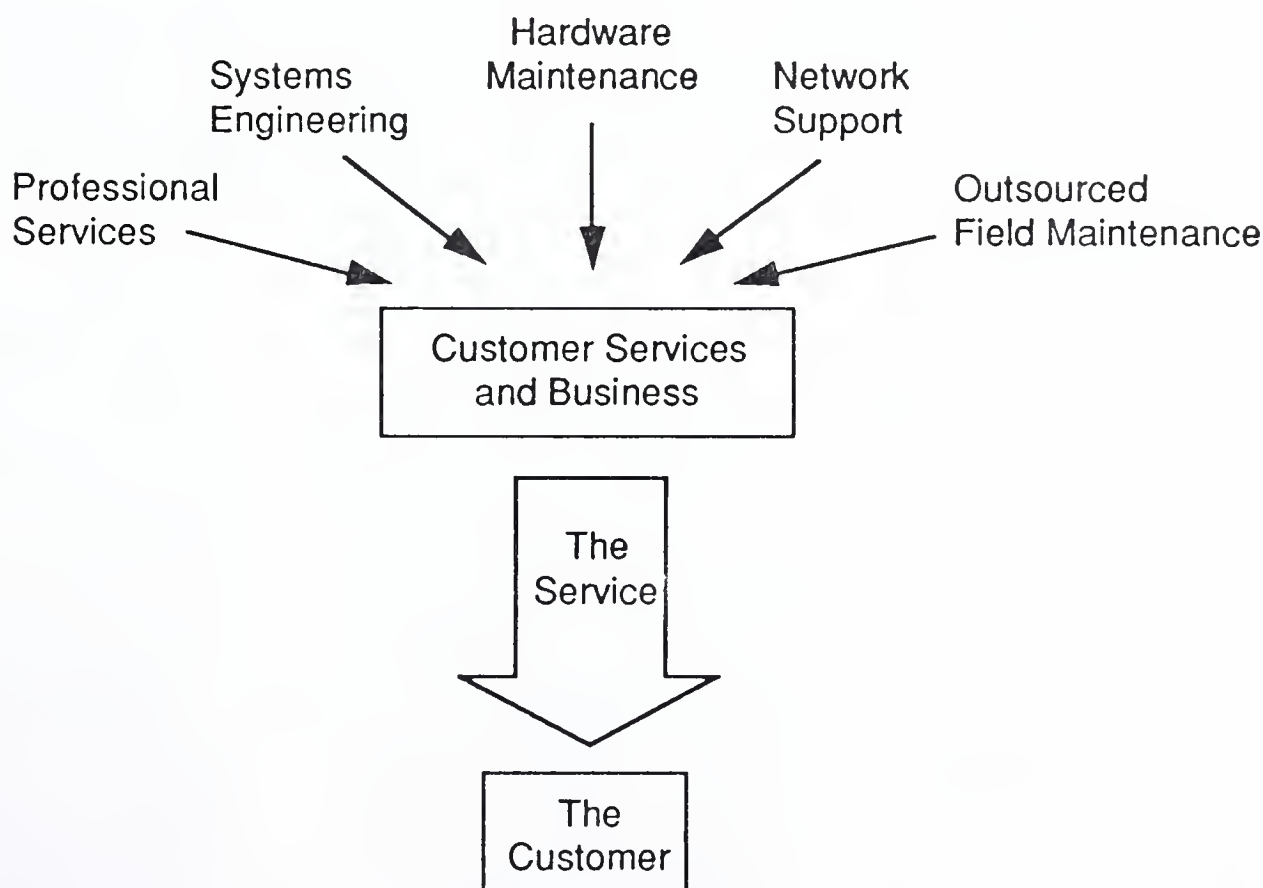
Satisfying Demand

The constituent elements of Sun's customer services product are summarised in Exhibit D. The principal factors underpinning the success of the product are as follows:

- The service provided by Sun is strongly oriented towards software support, network support and consultancy. In order to satisfy the support requirements of customers operating complex systems software platforms, it is clear that the customer services operation is being increasingly expected to offer professional services solutions.

Exhibit D

The Customer Services Product



Continued on next page

INPUT

Sun ... from page 5

- Sun's ability to develop engineering staff into systems engineers possessing both broad problem solving and consultancy skills provides operational flexibility significantly in advance of companies that maintain separate hardware and software support activities.

- The strategic development of outsourcing and the concept of core competence allows Sun to focus on key areas of the business and to provide high-quality total service that is efficient and flexible.

Sun provides a good example of the extent to which the service requirements of the customer and

the demands of the environment are shaping the customer services business. Sun has responded to the challenge by developing a clearly defined strategy which, although elegant in its simplicity, is indicative of the significant change that can be expected across the industry. ■

DEC Announces Subsidiary in Eastern Europe

DEC has announced the opening of a subsidiary operation in Czechoslovakia, and the signing of agreements with three Czechoslovakian companies to sell and service computer systems and solutions in Czechoslovakia.

DEC has made a series of investments in the emerging markets of Central and Eastern Europe. The establishment of a presence in Eastern Europe began in 1990, with the formation of a joint venture in Hungary. Since then,

DEC has taken a multifaceted approach to the opportunities created by the unification of Germany.

DEC's Czechoslovakian headquarters is being established in Prague, with plans to open an office in Bratislava in the fall of 1991. ■

Q&A

Q: What remote support is available from Bell Atlantic Business Systems Services for the IBM 3090?

A: The 3090 remote support feature is different from that of the other IBM mainframes (i.e., 4300 and 308X). When the system identifies a problem, it "calls home" to the support center in Frazer, PA.

The IBM 3083 CPU receives the call, and central dispatch is notified.

1. An FE is dispatched to the site, if one is not there already.
2. The National Support Organization for IBM products is notified. It extracts data from the Frazer 3083 system pertain-

ing to the problem, and details a course of action.

The account is then contacted to discuss the problem with the FE (assigned on-site) or the customer, and an appropriate course of action is determined.

All IBM 3090 systems have the "call home" feature built into them. Bell Atlantic BSS did an in-depth development effort to bring its "call home" system to market. A service processor monitors the 3090 for error conditions, and when certain threshold conditions are exceeded, the processor analyzes it and initiates the call to the Frazer facility.

Q: What are Bull's policies for servicing Printronix printers?

A: Bull is the exclusive national service subcontractor for Printronix, and has been for seven

years. There is an installed base of 10,000 printers that Bull services nationally. Coverage is as follows:

- Standard, Monday-Friday, 8 am to 6 pm
- Monday-Friday, 8 am to 12 midnight (additional 30% over standard)
- Seven days a week, 24 hours a day (additional 50% over standard)
- Standard plus Saturday, 8 am to 6 pm (additional 10%)
 - Over 10 hours on a Saturday (additional 20%)
- Standard plus Sunday, 8 am to 6 pm (additional 10%)
 - Over 10 hours on a Sunday (additional 20%)

Snippets

- ❖ Ferrari Holdings PLC, the U.K. computer services company, has gone into administrative receivership. It is anticipated that the receivers will attempt to sell the constituent elements of the company separately as going concerns.
- ❖ Barclays Bank, the U.K.'s largest clearing bank, has created a separate company (Barclays Computer Operations) for its IT function. The new company will have to bid for all work from Barclays and will be free to compete on the open market for external contracts. The primary motive for the move is to reduce costs in an attempt to see improved value for money from IT operations. Development work is not affected by the move and will remain in-house.
- ❖ A U.K. PC maintenance company—ATM, which specialises in the support of Novell Netware LANs—is offering refunds to contract customers when it fails to meet fix time targets. Failure to solve a problem within 24 hours of the fault call results in a refund to the customer of £20; an ongoing fault can be refunded to a maximum of £100. The scheme was launched last December and, to date, ATM has not had to part with any cash!
- ❖ In order to meet the needs of its growing numbers of international customers, Fujitsu has established an International Customer Support Centre in Spain. The principal activities of the centre are systems engineering support, research for international systems products, development of systems engineering tools, and international educational course development.
- ❖ Unisys has won a "not insignificant" TPM contract to maintain all the third-party equipment in McDonald's restaurants located in southern England. Unisys has stated that it has no intention of making a large-scale move into the independent maintenance market, but will restrict its TPM activities to strategically important customers.
- ❖ The U.K. Star Computer Group has sold its independent maintenance company, Star Computer Services, to Misys PLC for £2.7 million. The deal has resulted in the merging of the maintenance company with Misys' own maintenance operation, TIS.
- ❖ In February 1991, Novadyne Computer Systems, Inc. released a new on-line system diagnostics and disk utility called System On-Line Maintenance Executive (SOME). It provides transparent, remote disk error correction for its REALITY® line of mini and supermini computer systems.

Q&A Continued

Response times are next day, 4 hours, and 2 hours. There is also the option of having a dedicated on-site technician.

Previously, the warranty was for return to manufacturer only, and there was no warranty at all for dot matrix units. Now, there is a 90-day on-site warranty, but it's only available through the Printronix distributor network, not through OEMs or VARs. There are 12 distributors, but they do not have full nationwide service capabilities. This is where Bull steps in. It does a per-incident

repair, billed back to Printronix. There is no depot repair available. Bull has 200 service locations in the United States.

Time and materials rates for Printronix printer repair range from \$95/hour (8 am to 6 pm, Monday-Friday) to \$114/hour for outside standard hours. There is no minimum charge for time and material calls.

Installation varies by product line, ranging from \$268 for high-end units to \$230 for low-end machines. Bull also includes parts if there is a faulty part or cable. Bull states that it will do whatever is

necessary to get the unit installed and working. Bull does not bill Printronix or the customer for the replacement parts.

Q: What are Bell Atlantic Business Systems Services offerings in Canada?

A: Bell Atlantic BSS Canada supports AS/400, DEXTRA and MAXWATCH. There is no helpdesk and it does not support microcomputers in Canada. Focus is on IBM, DEC, and Xerox. ■

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IN THIS ISSUE:

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Norsk Data - A Study in Radical Change

Norsk Data, the Norwegian IT supplier, has recently attracted considerable interest as a result of the joint venture it has established with Thomainfor, the French-based independent maintenance company. This month, Service Update is looking at the details of the partnership and the strategic thinking that led to the venture.

The Move Towards Multivendor Maintenance

Multivendor maintenance is being increasingly adopted by equipment manufacturers in response to perceived demand from customers and as a defence against the activities of the independent sector. Companies such as Digital, Unisys, Hewlett-Packard and Wang all include multivendor maintenance in their portfolios of customer

service products. However, the company that has attacked the market with the greatest aggression is Olivetti (please refer to Service Update, December 1990), which has realised very considerable benefits through the development of a pan-European multivendor service business. Norsk Data, too, sees considerable benefits to be gained through the possession of a comprehensive multivendor service business. However, the company is in the process of adopting a rapid, perhaps even revolutionary, change in its strategic direction, and the move into multivendor maintenance must be seen as an important element of this new strategy.

The Company

Exhibits A and B summarise the recent financial history of Norsk Data. In common with many

companies in the industry, reduced margins have had an adverse effect on financial performance. Norsk has responded to the changing market conditions by focusing very strongly on vertical markets, particularly central and local government and publishing, and by adopting open systems standards.

However, in addition to these developments, which are similar to those of many of the company's competitors, the U.K. operation is in the process of redefining its core business. The company has traditionally been regarded as primarily an equipment vendor, but it now regards its core business as the provision of services rather than the manufacture of equipment. Three factors account for this radical change of emphasis:

Continued on next page

Norsk... from page 1

- In 1990, 60% of Norsk's U.K. revenues were derived from services and 40% from hardware sales. Essentially, customer demand has dictated what the core of the business actually is and the company is responding to the needs of the customer.
- In addition to the threat posed to equipment vendors by falling hardware prices, the company has acknowledged the need to respond aggressively to the negative impact on revenues caused by the stagnation in growth of the proprietary hardware maintenance activity.
- Norsk sees substantial growth opportunities in the service markets of Europe and particularly in Scandinavia.

The move into multivendor maintenance is the first major tactical change undertaken in support of the new strategy.

Why Multivendor Maintenance?

It is now commonly recognised within the industry that renewed focus on the customer services business is required in order to compensate for falling margins from both hardware sales and hardware maintenance revenues. Companies are actively seeking to expand their service portfolios and to enter high-growth service markets. What were the factors that encouraged Norsk to move so decisively into multivendor maintenance?

Exhibit A

Norsk Data Total Revenues, 1985-1989

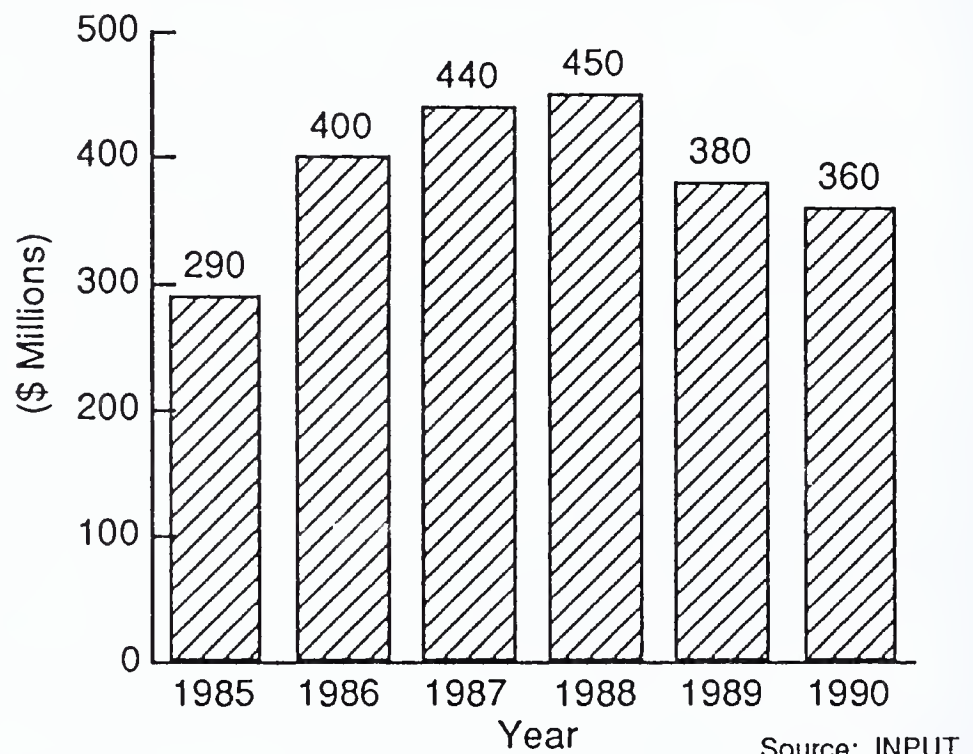
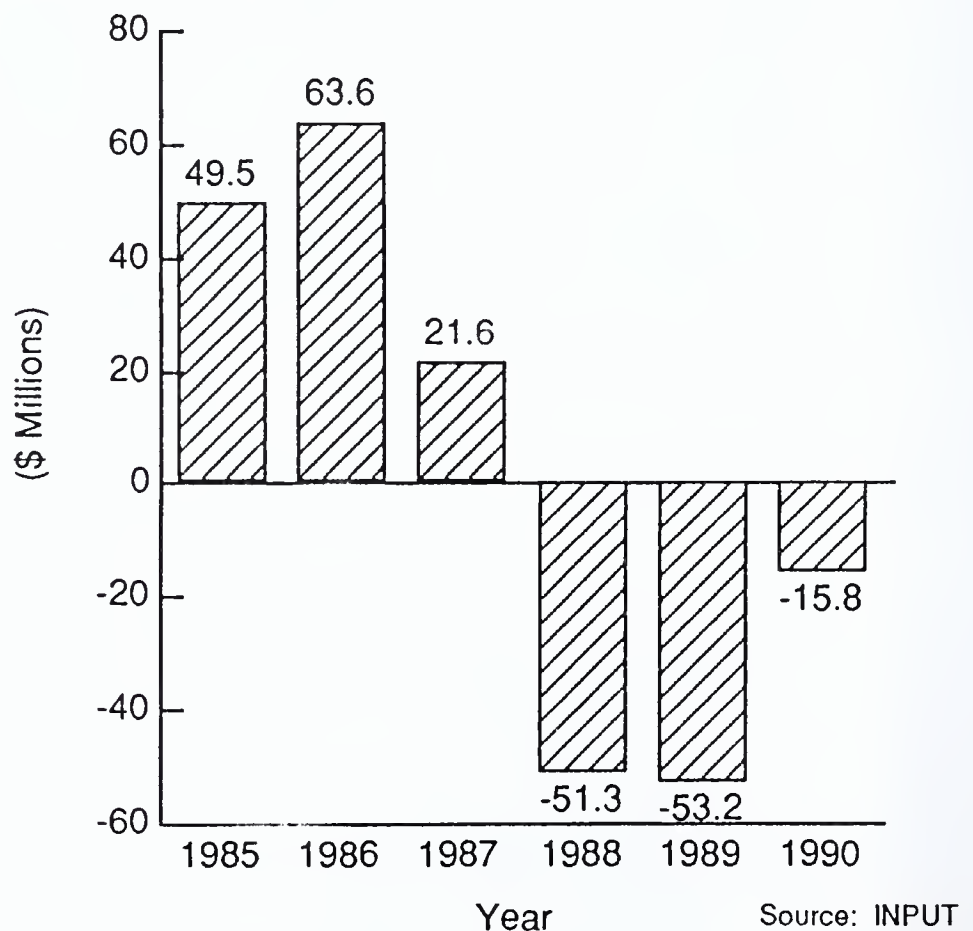


Exhibit B

Norsk Data Operating Profits, 1985-1989



- Norsk considers that there is considerable demand for single-source maintenance within the user base. Support for this assumption is drawn from the fact that the company succeeded in winning a major multivendor maintenance contract very shortly after launching the service and that the prospect list for such contracts is significantly more valuable than the hardware prospect list.
- The independent maintenance market in Scandinavia is, in Norsk's opinion, at an early stage of development. The third-party maintenance companies have not significantly penetrated the market, which is difficult to service profitably owing to the geography of the region.
- Norsk's U.K. customer services organisation includes a body of engineers who were

assimilated into the company when Norsk acquired Wordplex in the U.K. The engineering department therefore possesses the range of technical and logistical expertise required to meet the different service needs of products of widely varying technical complexity. The company consequently already has the appropriate balance of skills required to adapt to a multivendor servicing operation.

Although Norsk is currently putting considerable emphasis on the development of its multivendor maintenance service, it should be stressed that this service is only the first of a range of planned services targeted at network service and support.

The Thomainfor Link

Exhibit C illustrates the ownership details of the joint venture between Norsk and

Thomainfor in the relevant European markets. In the U.K., the Service Team operation will be managed on a day-to-day basis by Norsk, while in Benelux, France and Switzerland, Thomainfor is taking over the entire Norsk operation, including equipment and software sales.

In order to compete effectively in the multivendor maintenance market, Norsk determined that it needed to be able to demonstrate the following capabilities:

- Technical credibility across a wide range of products.
- Technical expertise on a range of products.
- Technical support capability.
- An organisation that has achieved critical mass in terms of size and geographic coverage.

Continued on next page

Exhibit C

Norsk/Thomainfor Joint Venture The Ownership Details

	Country			
	U.K.	France, Benelux Switzerland	Scandinavia	Rest of Europe
Ownership details	Joint venture Norsk holds majority stake	Thomainfor 100%	Norsk 100%	No change
Operational management responsibility	Norsk	Thomainfor	Norsk	No change

Source: INPUT

Norsk... from page 3

From Norsk's point of view, the joint venture with Thomainfor has immediately provided Service Team with a level of technical credibility across a wide range of products, supported by a high level of expertise and by Thomainfor's support organisation, which is able to offer pan-European service. The advantage to Thomainfor of the U.K. arrangement is that the joint venture capitalises on the critical mass and nationwide coverage of Norsk's existing service organisation to achieve a significantly larger share of the U.K. service market than it was able to achieve as an independent entity.

Another significant factor in favour of the venture is that Thomainfor has no plans to enter the Scandinavian market, thereby avoiding a potential conflict of interest in an area in which Norsk has particular interest. Norsk will take advantage of Thomainfor's support capability to provide the technical expertise necessary to move into the Scandinavian independent maintenance market.

Competitive Threats

A key component of the strategic thinking behind the move into multivendor maintenance was the competitive threat posed by the existing independent maintenance companies and by the equipment vendors offering multivendor maintenance services.

Norsk's view is that the major independent companies will not experience substantial growth over the short term for two reasons:

- The rapid rate of expansion through acquisition exhibited by the independence maintenance sector over the recent past is likely to give way to a period of consolidation, as attempts are made to integrate the disparate parts into a cohesive whole.
- The company considers that the competitive threat posed by third-party maintenance companies has been reduced by the excessive reliance on the use of price as a competitive weapon that has, in Norsk's opinion, led to an unsustainable level of profitability for many companies in the market.

Norsk considers that the potential threat posed by equipment vendors has decreased because of the tendency to see multivendor maintenance as a defensive tactic to protect traditional sources of revenue. On the other hand, Norsk regards the service as a significant business opportunity and one that will assist significantly in the development of the core service business. This important variation in emphasis will be used by the company to establish a competitive edge over alternative multivendor service offerings.

INPUT Comments

There is little doubt that the strategic direction adopted by Norsk is both radical and bold. It is the first instance in which a major partnership has been forged between an equipment manufacturer and a leading independent maintenance company.

The success of the company's entry into the multivendor maintenance market will be largely dependent upon two questions:

- How valid are the assumptions made concerning the comparatively weak competitive threat posed by the independent sector and equipment vendors?
- Are the assumptions concerning the high level of demand correct?

INPUT's research indicates that, in Western Europe as a whole, up to 70% of users prefer single-source maintenance as a service option. In the U.K., the figure is 60%. The indications are, therefore, that a very significant level of demand exists for the type of service offered by Norsk.

However, it is worth noting that the figures for 1990 quoted above show a very marked decline over the data for 1989, which, in the case of Western Europe, was 75%, and for the U.K., 84%. One possible explanation for this evidence is that users are expecting an increasingly specialised service from their maintenance suppliers, which implies a

preference for a number of specialist vendors. However, such an explanation fails to take into account the extensive use of subcontracting by multivendor suppliers.

A second, more feasible explanation is that the latent

demand is still very strong, but users' expectations in terms of the quality of true multivendor maintenance have not been met. The continuing strong performance of the leading true multivendor suppliers, such as Olivetti, lends support to this explanation. If this view is

accepted, the optimism demonstrated by Norsk may prove to be well founded.

The future development of Norsk's service business will be watched with interest. ■

News from the USA



Bell Atlantic Takes Last Step in Consolidating Business Systems Services and CDC

Bell Atlantic Business Systems Services has completed the last step in the integration of Control Data's third-party maintenance group into the former Sorbus third-party maintenance business. The company eliminated 240 redundant dual management and support positions that have existed since the CDC acquisition. The eliminated positions affect field sales and operations, field and headquarters administration staff, and management.

Other reorganization efforts at Bell Atlantic include the reporting of the Bell Atlantic Business Computer Technology Services companies within the Bell Atlantic Business Systems Services organization.

Hewlett-Packard Launches Diamond Edge Support Program

On April 1, Hewlett-Packard announced a support program designed to help its workstation value-added businesses (VABs) move their products to market more quickly and support their customers more effectively.

The new program, called the HP Diamond Edge support program, helps workstation VABs improve their time to market in three key ways:

1. Enhanced software support services to provide faster problem resolution at an HP response center.
2. HP consultants to work with VABs, reducing the time it takes to port or migrate their applications to new HP platforms or software. Workstation VABs can now

move onto new platforms and get applications to market more quickly.

3. Selected training courses previously restricted to HP application engineers are now available to VABs' developers and support engineers. These courses enable VABs to develop applications more quickly and to provide better support to their customers.

VARs and OEMs can sell a complete maintenance solution by bundling the HP Apollo Comprehensive Maintenance service with their own application support. The VARs and OEMs in return receive discounts and credits enabling them to increase their profit margins.

All VABs can resell HP's scheduled training courses and register their customers directly. VABs receive a 10% discount on the price of the course when reselling, and those who participate are then eligible for the same discount when sending their employees to HP training.

Pricing is based on the unique requirements of the individual VAB. ■

Questions from the USA



Question:

What are GE Computer Services service offerings for PCs and LANs?

Answer:

LAN services include remote technical support, hardware repair, hardware installation, software installation, site planning, cabling, and hardware staging. GE services a wide variety of LAN hardware components and network types.

Personal computer maintenance is available for the PC itself as well as associated peripherals, including LANs. Hardware maintenance includes:

- On-site remedial maintenance, on-site installation service, network maintenance, carry-in depot maintenance, and other custom services. Standard features of on-site remedial maintenance contracts include repairs due to hardware failure; parts, labor, and travel; toll-free, 24-hour, 7-day/week response center. Optional contract features are after-hours service, multi-

year contracts, remote site coverage, flexible pricing options, expanded hours coverage, premium response time, and telephone assistance.

Question:

How many service employees does HDS employ?

Answer:

There are approximately 475 total service employees in the U.S., of which 400 are actually in the field providing on-site service.

Question:

How many U.S. service locations does HDS have?

Answer:

HDS states that there are 85 service locations nationwide.

Question:

What dealer programs do Apple and Compaq have for warranty repair and warranty reimbursement?

Answer:

According to ComputerLand, there is no on-site program for either Apple or Compaq. Apple depot has a sliding scale for reimbursement depending on the complexity of the repair. It costs the least for minor repair, and up to 50% more for the most complex problem.

Compaq depot is straight-line reimbursement, regardless of the problem. The dealer does the repair, and replaces the parts in the problem machine. The dealer fills out and sends back to the manufacturer a warranty claim form, accepted by most manufacturers (both Apple and Compaq accept it), and the defective part. The manufacturer sends back a replacement part. The manufacturer, at the dealer's request, may also give credit against future purchases. This credit may also build up, and when it reaches a certain point, the dealer can receive cash instead of the credit.

Both Apple and Compaq can also cross-ship (the manufacturers have different names for it); the dealer calls the manufacturer (when the part is under warranty), tells the manufacturer the part number, and within 15 to 30 days, the dealer receives the replacement part at no charge (as long as the manufacturer receives the defective part).

Snippets

- ❖ The research arm of Glaxo, the U.K. pharmaceutical company, is looking into a number of companies to find a long-term supplier for its PC maintenance requirements. The contract was held by Ferrari Technical Services, but became null and void when the company went into administrative receivership. Although Glaxo has taken out an interim contract with Videcom, the purchaser of Ferrari Technical Services, it is clear that the contract is "up for grabs."
- ❖ Sun Microsystems has reported that it is creating new subsidiaries in Finland, Belgium and Brazil to provide direct sales and support capability. This announcement brings the number of European subsidiaries to ten.
- ❖ It is reported that several facilities management companies in the U.S. are considering taking legal action in an attempt to prevent IBM from entering the facilities management market.
- ❖ Servicetec, the U.K. independent maintenance company, has announced that it has acquired the Dutch maintenance business of Econocom. Servicetec plans to manage the acquisition at arm's length and no staff changes are envisaged.
- ❖ IBM U.K. has taken equity stakes estimated at 10% in nine of its agents, including Bluebird Software Plc, Cyberaid Ltd. and JBA International Plc.

U.S. Snippets

- ❖ Granada Computer Services North America has announced that it has no plans to put the U.S. division up for sale. The company reports sales of \$30 million in North America and is negotiating another acquisition that will bring it another \$10 million in revenues.
- ❖ Intellogic Trace recently introduced telephone support for NetWare. The "995 Program" provides 25 phone support call incidents for \$995 per site with the guarantee of a one-hour response time by a CNE.
- ❖ Grumman Systems Support (GSS) has expanded its operations in Florida with the addition of sales and service representatives in Miami and Tampa/St. Petersburg. GSS already had offices in Melbourne and Stuart, FL, as well as the Kennedy Space Center.
- ❖ On March 18, 1991, Bell Atlantic Business Systems Services was the recipient of the 1991 Digital Review Target Award for "Best Third-Party Maintenance." This is the third consecutive year that Bell Atlantic BSS has received the award for providing DEC customers with services.
- ❖ As an expansion of its DEXtra Support program, Bell Atlantic BSS, in cooperation with The PARSEC Group, now offers layered product support for the 20 most popular applications, languages, and utilities running on DEC VAX/VMS systems.
- ❖ Hewlett-Packard announced the inclusion of a maintenance program for workstation hardware, software, and the networking aspects of service in its suite of support services. The new program provides single-source support for customers using workstations in complex networks.

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- 11 Questions from the U.S. Hotline

Digital—A Focus on Service

An increasing emphasis on the need to match IT investment with the strategic goals of the business it supports, combined with a perception that IT spending has not been subject to adequate management controls, are two key factors currently affecting the computer systems marketplace. A further issue that specifically affects the professional and customer services markets is that the development of services such as disaster recovery and systems operations (facilities management) blur the boundaries between the traditionally separate wings of the equipment vendor's service organisation.

In response to these factors, a trend is emerging within the industry. This trend can be

described as the merging of the professional services and the customer services operations into one functional entity. Digital and Wang are two of the companies that have adopted this policy and this month Service Update is profiling the Digital Services operation as the leading example of this trend.

Exhibit A illustrates the degree to which Digital has succeeded in developing nonmaintenance customer services revenues that are significantly greater than those of its rivals. The company must be considered the most successful pioneer in the development of nonmaintenance services, and the introduction of the programme demonstrates clearly the extent to which the

company is pursuing its adopted service strategy.

The Service Concept

The central element of the service concept is that the Services product is targetted at servicing the needs of the customer's total business, not merely the equipment. Geoff Shingles, Managing Director of Digital Equipment Co. Ltd, has stated that:

"Good planning, the design of the most appropriate policies, procedures and infrastructure and the successful implementation and management of the resultant IT strategy all play an important role in supporting (the customer's) business."

Continued on next page

Digital... from page 1

It is apparent, therefore, that the company is placing equal importance on the entire service cycle—from strategic planning to ongoing maintenance and support. To reflect this approach, the company has adopted a four-level methodology that provides the overall structure into which the specific service offerings fit. The methodology, known as PDIM, covers planning, design, implementation and management and is illustrated in Exhibit B.

All services included in the programme are related to the level of the methodology to which they apply. For example, management consultancy contributes to planning, design and implementation—whereas hardware product services are exclusively involved at the management level. Each individual service product within the programme can be seen as contributing to a service cycle that is closely allied to the client's business development needs.

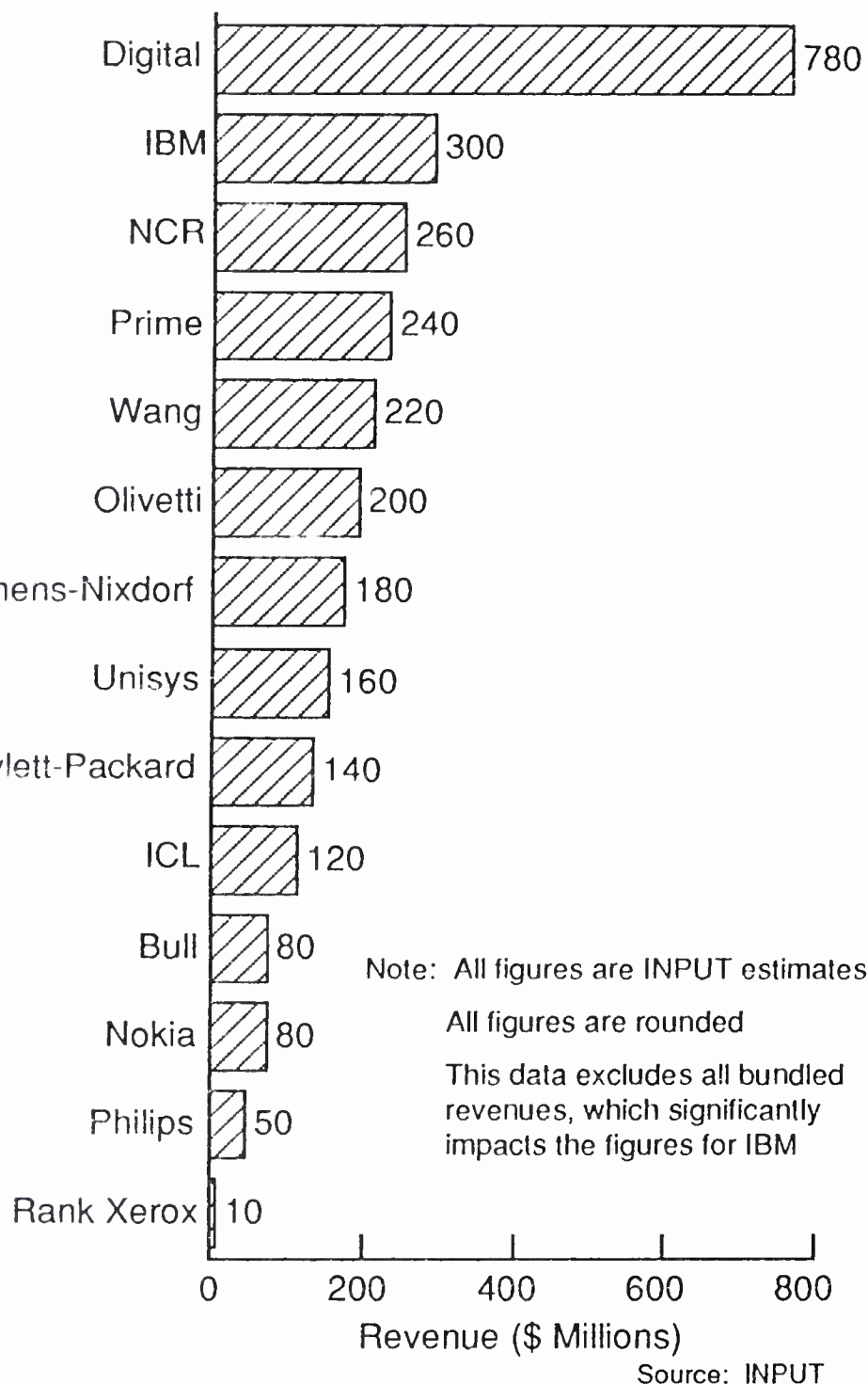
The Services

Exhibit C lists the major categories of service and the particular service products included in the programme.

Consultancy Services provide a range of modules covering assistance with the development of a business strategy that is aimed particularly at the business unit or divisional level of an organisation. At this level,

Exhibit A

Nonmaintenance Customer Service Revenues Western Europe, 1990



consultancy is provided at the business level—only comparatively minor attention is paid to specific issues related to information technology or information systems.

This high-level consultancy service is supported by a range of modules that focus on the design element of the service methodology as well as the planning phase. Examples include IT strategy planning, which aims to identify how IT can support the overall strategic direction of the business.

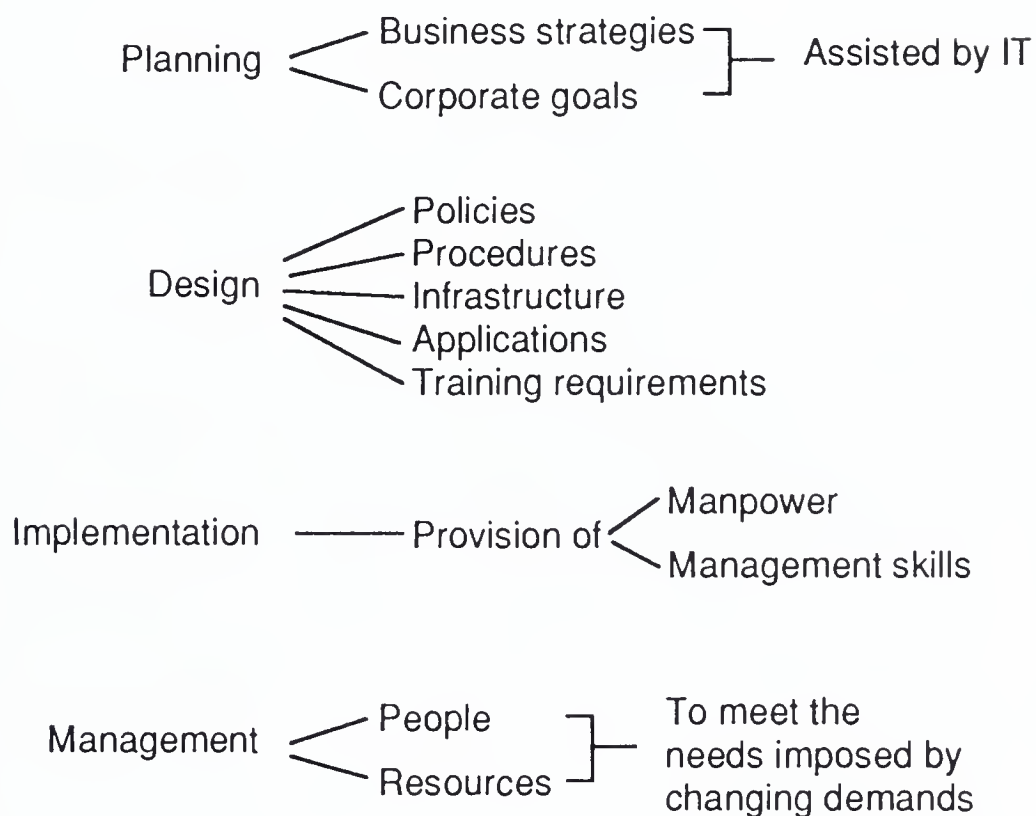
However, in addition to a focus on IT issues, other key elements required to support the business strategy are included. The key element is assistance with organisational development and change. The key point in relation to the management consultancy element of the programme is that issues relating to IS and IT strategies are placed firmly in the context of the overall needs of the business.

The applications consultancy module is targetted at the planning and design of IT solutions to meet the overall requirements of the client's business. The application of specific technologies such as EDI or products such as All-In-1 provide examples of the services covered by the module. The focus generally is applied to the design and implementation level of the methodology and, therefore, supports the planning phase provided by the management consultancy level.

The IT and IS consultancy services are intended to provide assistance in gaining maximum performance from systems solutions at the applications, systems software and equipment platform levels. Exhibit D provides a summary of the major elements provided at this level of the service.

Exhibit B

Plan, Design, Implement, and Manage The Methodology



Source: INPUT

In essence, consultancy services are aimed at providing services that satisfy the technical requirements of the customer but, more importantly, are designed to ensure that the IS and IT strategies adopted complement the overall business strategy agreed upon with the client.

Continued on next page

Exhibit C

Digital Services

- Consultancy Services
 - Management consultancy
 - Applications consultancy
 - IT consultancy
 - IS consultancy
- Education
 - Education and training services
- Support and Maintenance Services
 - Digital-assisted services - for companies wishing to develop self maintenance capability
 - Environmental services
 - Business protection services - Disaster recovery
 - Business support services - assumption of responsibility for managing delivery of Digital and multivendor hardware and software products
 - Network services
 - Hardware product services (desktop) - Digital and multivendor
 - Software product services
 - Hardware product services
 - Vendor equipment services - multivendor
- Project Services
 - Project services
 - Business support services

Source: INPUT

Digital... from page 3

Education and Training Services are aimed at all four layers of Digital's service model. In addition to the delivery of training through the DECtrain courses and delivery modules, the company offers consultancy to assist in the identification of training requirements and the development of suitable curricula. The service is aimed at maximising the benefit that the client will gain from an investment in IT.

Support and Maintenance Services include the majority of services traditionally associated with the customer service organisation. The categories of service provided are listed in Exhibit C. However, to illustrate the extent of the range of services covered, Exhibits E and F detail the service products contained within the hardware products and software products services, respectively. It should be noted that multivendor maintenance is included as a specific service, as is assistance to users who wish to develop their own servicing capability. The inclusion of a range of services covering multivendor maintenance indicates the extent to which Digital is prepared to enter co-operative agreements with third-party service providers to offer single-source maintenance.

Project Services cover a wide range of service products encompassing the management of wide-area networks, the provision of packaged solutions in response to defined business problems, and bespoke software development. The range of services covered is illustrated in

Exhibit G. This sector of the total Enterprise Services product covers the range of information services provided by Digital. A comparison of the Consulting, Support and Maintenance, and Project services provides a view of the comprehensive nature of the total service offering.

INPUT Comments

The fact that Digital is already Western Europe's biggest supplier of nonmaintenance customer services revenues provides a clear indication of the importance that the company

company is the market leader in the development of nonmaintenance customer services revenues and, as such, the Services programme is likely to have a significant influence on the thinking of the company's major competitors.

- INPUT anticipates that the management experience gained in running a \$700 million customer services operation as a profit centre will beneficially influence the management of the integrated business. The non-

Exhibit D

IT and IS Consultancy Services (Principal Elements)

Information Technology	Information Systems
Rdb design and implementation Database systems performance Network planning and design Message handling systems Planning and design Mailbus node implementation CASE design and implementation General technology consulting	Capacity planning Network management Performance consulting Environmental services Business protection services

Source: INPUT

places on service. However, the Services programme should be regarded as highly significant in its own right for four principal reasons:

- The programme illustrates a trend that, potentially, will influence the general provision of service within the industry as a whole. As has already been stated, the

customer-services element of the combined business has traditionally been managed at a smaller, more fragmented level than the customer services operation.

- One of the key elements of the total services package is the importance attached to service partnerships. The multivendor maintenance

Continued on next page

Exhibit E

The Support and Maintenance Service Hardware Product Services

- DEC System Support Service (DSS) - Hardware and software service contract
 - 12-hour cover - 4-hour response (hardware faults)
 - Remote diagnostics - access to problem database
 - Systems software licence for new versions
 - Telephone support and on-site critical software support
- BASICsystem Support Service (BSS) - for non-critical applications
 - 8-hour cover - next-day response (hardware facilities)
 - All other services as per DSS
- Extended Cover
 - Service coverage up to 24 hours, 365 days per year (all other services as per DSS)
- City Service
 - Reduces response from 4 to 2 hours for all hardware faults
 - Available for major urban areas only
- DECresident
 - Provision of resident engineer
 - Includes comprehensive site management and communications
- Hardware per call
 - Hardware support charged on time and materials basis

Source: INPUT

Exhibit F

The Support and Maintenance Service Software Products Services

- Software Support Service (SSS)
 - Single processor or clusterwide
 - Provision of licence to use new versions
- Media and Documentation Distribution Service (MDDS)
 - Media update supplied on
 - Tape
 - Disk
 - Compact disk
 - Provision of documentation update, including technical news bulletins
- Documentation Service (DS)
 - Provision of new version of documentation on request
- Compact Disk Distribution Service
 - Delivery of a combination of the following every 2 months
 - VAX/VMS software
 - On-line documentation
 - Product installation guides
 - Product release notes
 - Updated contents list
- Software Update Installation Service (SUIS)
 - An assigned software specialist
 - Update impact assessment and advice
 - Update planning
 - Installation of new and updated software

Source: INPUT

Continued on next page

Exhibit F (cont.)

The Support and Maintenance Service Software Products Services

- Software per call
 - Software support provided on time and materials basis
- Stand-Alone Telephone Support Service (SATS)
 - For companies with reduced requirement for support
 - Telephone support
 - Remote diagnostics - access to problem database
 - On-site support for critical problems
- System Manager Support Service (SMSS)
 - Systems performance management services covering the following:
 - Storage
 - Configuration
 - Performance
 - User accounts
 - Security
 - Systems operations

Source: INPUT

Digital... from page 7

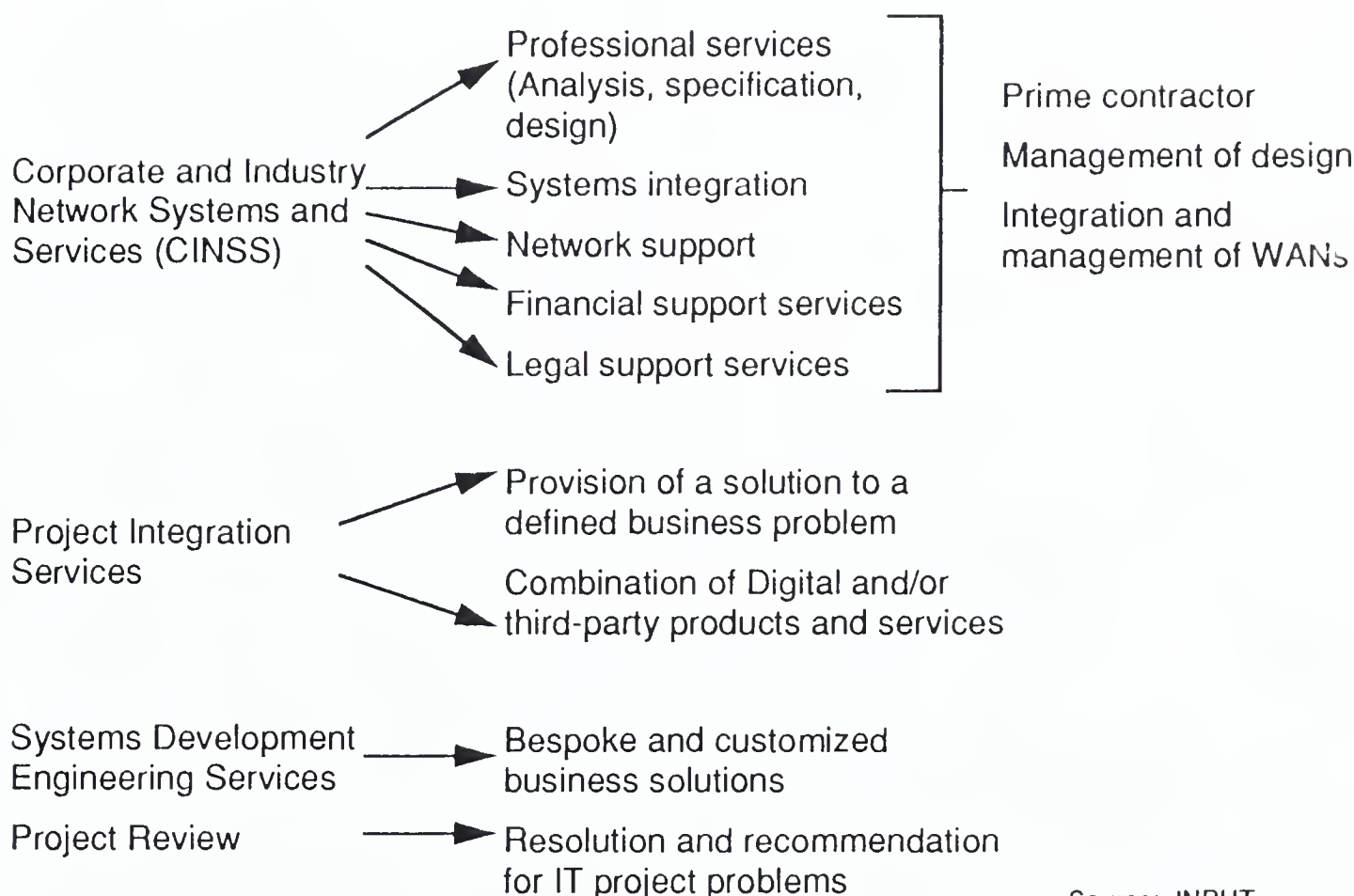
programme provides the principal example of this factor in that it explicitly includes the concept of approved contractors in the provision of multivendor support. It is anticipated that the demand for a single source of support will significantly increase the rate at which such relationships are developed.

- Perhaps the most important conclusion to be drawn from the service is the considerable stress placed on the degree to which information systems must support the client's business as a whole. The service is explicitly targetted to provide business solutions rather than to serve the technology. The need for this business emphasis has been explicitly expressed by computer users during the course of INPUT user research. Although the need to provide such a business focus is frequently voiced within the industry, Digital is one of the few companies to provide a comprehensive range of service products in response to this stated need.

The strategy behind the Services package is a response to many of the factors driving the development of the IT services business. The importance of the package is further enhanced by the fact that the product is from a leading service supplier. INPUT predicts that this service initiative will prove to be a significant influence on the thinking of many of Digital's competitors. ■

Exhibit G

The Support and Maintenance Service Project Services



Source: INPUT

Snippets

- ❖ As an expansion of the environmental service offered by Digital, the company has announced the formation of an Intelligent Building Services division within the service group. The services provided include all aspects of managing the construction of a building—including site selection, design, project management, installation of the technology infrastructure and handover to the customer.
- ❖ It is reported that Granada Business Services suffered a loss of approximately £700,000 for the six months to April. The company has also indicated that the Computer Services operation will remain part of the group.
- ❖ Norsk Data Ltd has acquired Norman Magnetics Ltd, a disk drive repair business based in Farnborough, U.K.
- ❖ INPUT anticipates that Siemens-Nixdorf Informationssysteme will take a 20% stake in the troubled French microcomputer manufacturer SMT-Goupil. Although no confirmation has been provided, Siemens-Nixdorf has stated that technical and industrial agreements are being discussed.

Snippets (Cont.)

- ❖ Dell, the PC manufacturer, has announced plans for an aggressive expansion into Europe. Subsidiaries have been opened in Benelux and Finland; a Spanish office is planned for the summer. Expansion into Norway, Denmark and Switzerland will follow in the medium term, and the company's manufacturing plant in Limerick has recently begun production. The company returned revenues of \$546 million in 1990; revenues are forecast to increase to \$750 million in 1991.
- ❖ CAP Gemini Sogeti has used its 70% stake in Hoskyns to launch a new French facilities management company, CAP Sesa Hoskyns. The company is a joint venture between Hoskyns and CAP Sesa in which Hoskyns has overall control. The company has stated that the French market is the first priority but has indicated an intent to develop a facilities management operation in all countries where CCS has a significant presence.



On May 16, 1991, Digital Equipment Corporation announced Help Desk Service, a modular set of capabilities that will be customized to each customer's needs. The three primary service modules are Evaluation and Design, Implementation and Operation, and Problem Resolution Coordination and Management Reporting. The Help Desk Service is capable of handling multivendor environments.

Kaiser Permanente's Ohio region has selected Bell Atlantic Business Systems Services as

one of seven "preferred (information systems) vendors." Bell Atlantic Business Systems Services now receives 95% of the region's computer service business.

Bell Atlantic Business Systems Services announced the signing of strategic service alliances with Amdahl and NCR. Under the agreement with Amdahl, Bell Atlantic will provide support of non-Amdahl equipment at existing Amdahl customers' sites. Amdahl believes the agreement symbolizes a commitment to top-quality

service for its customers' multivendor environments.

The service alliance with NCR offers NCR's customers support for IBM and DEC computer systems from Bell Atlantic through a single point of contract. The agreement enhances NCR's ability to provide multivendor service for its customers, with the actual provider of service transparent to the NCR customer. Similarly, Bell Atlantic will subcontract NCR to provide maintenance services on products not serviced by Bell Atlantic.

It is not known at this time the effect that the recent acquisition of NCR by AT&T will have on service alliances.

Novadyne Computer Systems has announced a joint service agreement with Secure Systems Group, Inc., a supplier and maintainer of TEMPEST and ruggedized computer products. The agreement provides single-source hardware and network service to customers requiring

both TEMPEST and non-TEMPEST system maintenance. The companies will jointly market their services to current and potential customers.

BULL HN has announced that it has agreed to purchase the assets of PTXI.

Xerox Corp. is leaving the third-party maintenance business, citing increasing competitive cost pressures as the reason. Current contracts will be honored, but no new agreements will be signed.

ARDIS has signed a \$15 million agreement with NCR to provide access to its nationwide radio data information service.

ARDIS will notify NCR's 5,000 customer service field engineers of dispatch information and significant details on their on-site calls via the network. NCR is spending an additional \$15 million to purchase Motorola KDT 840 hand-held terminals for its field engineers to receive the information.

Sears Business Centers has formed a new division, Sears Hardware Services Group. This new group will provide computer hardware support and professional services to Fortune 500 clients; current clients include Dean Witter, Allstate, and Exxon.

Novadyne Computer Systems now has an on-line systems diagnostics and disk utility. The System On-Line Maintenance Executive (SOME) software will provide remote disk error correction for its Reality line of mini and supermini computer systems. SOME can be installed via modem without interrupting the system.

Hotsite, the disaster recovery division of CompuSource, has agreed to merge with Continental Computer Assurance Corp. (CCAC) in Newton, PA. This makes the fourth disaster recovery facility for Hotsite. Other centers are located in Cary NC, Niles OH, and Tewksbury MA. ■

Questions from the U.S. Hotline



Q: Who are the authorized third-party maintainers for Codex and Burr-Brown modems?

A: According to Codex, there are no companies authorized to make repairs on its units. Even large service providers will subcontract the service of the modems back to Codex.

Burr-Brown handles all of the maintenance on its modems through its

subsidiary, Dataforth, located in Tucson AZ. Terms are return to factory; turnaround is usually 24 hours.

Q: What are the service offerings for PCs, LANs, and Helpdesk from GE Computer Services?

A: GECS offers on-site remedial maintenance, installation service, network maintenance, carry-in depot service, and custom services

on personal computers and peripherals. Standard features include repairs due to hardware failure; parts, labor and travel; and a toll-free, 24-hour, 7-day-a-week response center. Available options include after-hours service; multi-year contracts; remote-site coverage; flexible pricing options; expanded hours coverage; premium response time; and a telephone assistance center. ■

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Service Update

Route:

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A Publication from INPUT's Customer Service Programme—International

June 1991

IN THIS ISSUE:

- 1 Sitestream—A Market-Led Approach to Service from Unisys
- 5 News from the U.S.
- 6 Questions from the U.S. Hotline
- 6 Snippets

Sitestream—A Market-Led Approach to Service From Unisys

The maturity of the IT market is an issue on which the minds of many strategic thinkers within the industry are focussing. A range of factors are affecting the business, such as concerns within the user community over the benefits derived from IT investments, the slowdown in a number of IT market segments such as, for example, the hardware maintenance operation, and the severe squeeze on profitability currently being experienced by the majority of established equipment manufacturers.

Although the current economic problems in the U.S. and Europe undoubtedly account for many of the difficulties facing the business, it is increasingly recognised that the industry is

moving towards the mature phase of the market life cycle, as illustrated in Exhibit 1. It is anticipated that this evolution will be accompanied by a change of marketing emphasis within the industry, which will be increasingly driven by the following factors:

- Market segmentation
- Product differentiation
- An increase in "buyer" power at the expense of "supplier" power

Companies will increasingly have to focus closely on the needs of the customer and to use service to differentiate themselves from the competition. Unisys is one

company that is seeking to develop a range of service products to satisfy the needs of a changing market, of which "Sitestream" is the first example.

INPUT is therefore featuring this service because it provides a good example of the range of service products currently being offered by Unisys and because it serves as an example of a development that addresses the impact of the environmental changes facing the industry.

Sitestream—The Product

Sitestream is specifically designed to provide a comprehensive range of services for a multisite IS project. It

Continued on next page

Sitestream... from page 1

utilises the full range of Unisys' expertise in customer services, professional services and financial planning to provide a customised business solution that complements the range of skills possessed by the customer. The key aspects of the service are illustrated in Exhibit 2.

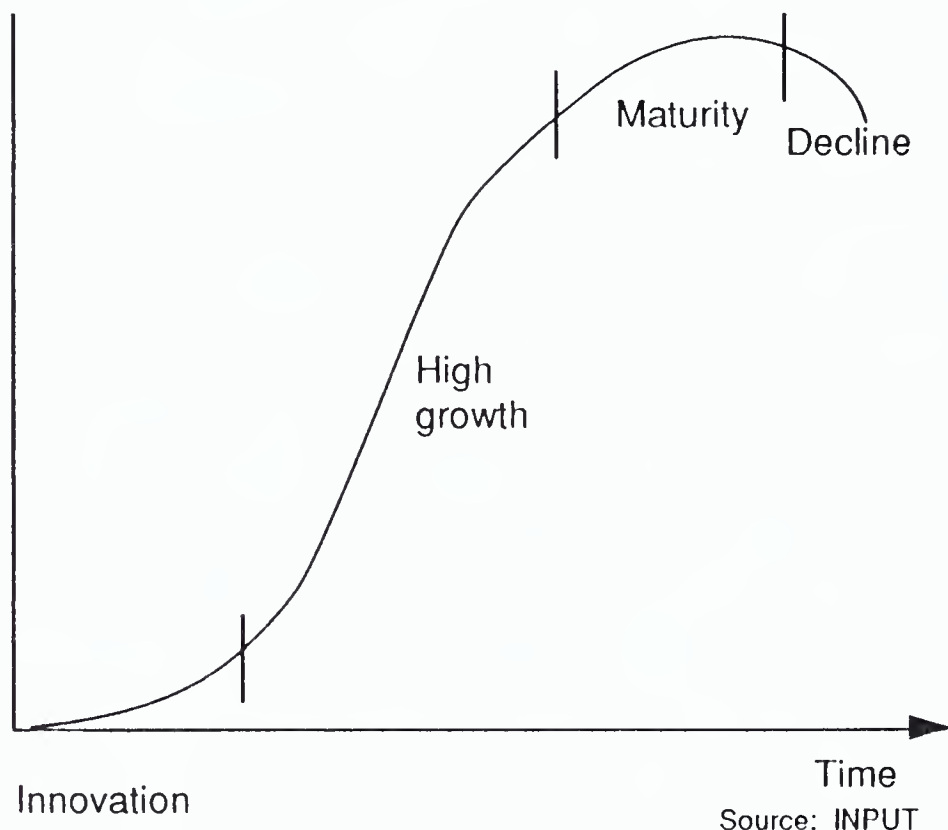
"To provide quality services and products in partnership with organisations to enable them to implement major multi-site installations to time, budget and specification whilst ensuring minimum disruption to the business."

The constituent elements of the service are illustrated in Exhibit 3.

Exhibit 1

The Market Life Cycle—A Reminder

Revenue



Source: INPUT

Although the elements contained within the overall service are common to the integrated service products offered by the majority of vendors, there are a number of factors that differentiate the approach adopted by Unisys:

- Care is taken to provide a complete project management service directly to each element of the business included within the overall project. An example of this approach is that of a multi-site project implemented in one of the U.K.'s major breweries. Each of the public houses included in the project had its own project plan in which the publican was fully involved. Unisys is careful to ensure that all the client's staff affected by a project are kept fully involved; Unisys does not simply liaise with a central point of contact.
- An intrinsic element of the overall approach adopted by the company is the stress placed upon the importance of joint planning. Sitestream is regarded as the development of a partnership

In order to co-ordinate the multi-disciplinary requirements of the service, Unisys has established a Sitestream business team tasked with the following business goal:

with the client company in which the strengths of the customer are complemented by the required level of support from Unisys. The range and depth of talent employed by a company the size of Unisys is seen as a resource that facilitates building a high degree of flexibility into the service product.

- Considerable emphasis is placed on the development of the client's own staff. The identification of training needs is seen as a key element of the product, illustrating the complementary nature of the service. Unisys is aware that the success of a Sitestream project is heavily dependent on the ability and motivation of the customer's staff to gain maximum benefit from the technology.

The Market

As has been stated, Sitestream is the first of a series of service products that Unisys is developing in response to the environmental factors facing the industry. It is therefore the result of a significant marketing effort on the part of the company to ensure that the product satisfies a defined customer need. The following points were identified as the principal factors dictating the form of the service:

- The networking market, as one of the two fastest growing sectors within the IT market (the laptop market being the other), is leading to growth in the number of multisite installations.

Exhibit 2

Sitestream—The Key Elements

- A multisite service product
- Customised to complement the skills of the client
- A total service solution incorporating:
 - Customer services
 - Professional services
 - Financial planning

Source: INPUT

- A number of organisational issues are increasing the strategic importance of the branch office activities of large corporations. Such factors include:
 - The delegation of operational decision making to the actual site of business activity. Branch managers are increasingly being given

Continued on next page

Exhibit 3

The Constituent Parts

- Project management and consultancy
- Education and training
- Environmental design and consultancy
- Software/hardware integration and support
- Network design and commissioning
- Project finance
- Maintenance and support

Source: INPUT

Sitestream... from page 3

the responsibility of running their own business, thereby increasing the strategic importance of remote sites and the need to supply quality information to the decision maker.

- The increased attention being given to the importance of customer satisfaction is leading to an investment in the technical infrastructure installed at the point of customer contact.
- The increasing acceptance by senior management of the importance of IT as a strategic business tool.
- Although these factors obviously provide considerable opportunities for the DP department within user organisations, they also present a number of problems in terms of, for example:
 - Shortages of appropriately qualified staff
 - A lack of experience in the project management of complex multisite projects
 - The need to identify training requirements for staff at remote sites with little previous exposure to the administration of IT systems
- Despite the potential of IT to assist in the realisation of a strategic goal, the user community has a low

expectation of success from investment in IT. In response to this scepticism, Unisys has paid particular attention to the need to provide, and to be seen to provide, a well focussed, well planned, quality service that meets the operational requirements of the client and is also delivered on time and within budget. This factor also explains the stress placed on human factors within the provision of the service. It is known that such projects will only succeed if all participants accept the operational benefits to be derived and are sufficiently well trained to manage the technology confidently.

In addition to the fact that the design of the product closely reflects these factors, one further point reinforces the market-led approach adopted by the company. Sitestream is a U.K. product, tailored specifically for requirements identified within the U.K. market. Although other European operations are looking at the provision of similar products, the intention to offer Sitestream as a pan-European service is being carefully evaluated. It will be the responsibility of individual country operations to identify specific market requirements and to develop products to meet defined needs.

INPUT Comments

Although the contents of Sitestream as a service product appear to be similar to many of the services currently being

promoted within the market, the importance of the product should not be underestimated. It provides a clear example of an approach to service product development that accounts for the environmental factors influencing the industry and that is directly focussed on the needs of the market.

The methodology adopted in the development of Sitestream provides an interesting comparison to the way Digital has approached the marketing of the service product. Digital, by combining the professional services and customer services operations, is providing a wide-ranging service package that includes the definition of a business problem and offers the resources necessary to provide a solution to the problem. The boundaries of the business areas that the service is intended to serve remain undefined, implying that the service is regarded as a resource to be applied to a wide range of problems rather than a product aimed at a specific market.

Unisys, however, has consciously sought to define a specific market need that satisfies two key requirements:

- It must offer a level of demand to generate a profitable rate of return for the company.
- It must utilise the areas of expertise possessed by the company in order to permit the creation of a sustainable competitive advantage.

Sitestream was designed to meet both the defined needs of the target market and the specified business objectives of Unisys.

It should be stressed that Sitestream is the first of a range of service products that Unisys

is currently developing, all of which will evolve from a clear focus on the needs of the defined market segment being attacked. The importance of Sitestream is derived, therefore, not so much from the contents of the service itself, but in the

strategic thinking that underpins it.

The potential success of the approach can be judged by the positive response Unisys received in the early days of launching the service. ■



Novadyne Teams with Secure Systems Group

Novadyne Computer Systems, Inc. has announced the signing of a joint services agreement with Secure Systems Group, Inc. of Irvine, CA. Secure Systems Group (SSG) is a supplier and maintainer of TEMPEST and ruggedized computer products.

The agreement provides single-source hardware and software service packages to customers who require TEMPEST and non-TEMPEST systems maintenance. The companies will jointly

market the services to current customers and prospects. For most TEMPEST sites, SSG will be responsible for the TEMPEST equipment and Novadyne will handle the maintenance of the non-TEMPEST equipment.

New Disaster Recovery Services available for Amdahl

Amdahl Corporation has announced three new disaster recovery services: disaster recovery planning and implementation, disaster recovery audits, and disaster

recovery business impact analysis. These services are designed to aid the successful recovery of computer resources, as well as the continued processing of critical data, when a catastrophe occurs.

The disaster recovery planning services are designed to assess the exposure of the company if there is a prolonged or indeterminate loss of the data center, and then be able to plan for that occurrence. The disaster recovery audit is an independent, objective audit of the effectiveness and reliability of the existing disaster plan. The business impact analysis provides an evaluation of the operating, financial, and regulatory impact of a data center disaster.

The services are available internationally and range in price from \$25,000 to \$200,000. ■

Questions from the U.S. Hotline



Q: Has IBM enhanced its EMO program in the last year?

A: IBM has enhanced the EMO program to include selected installed machines, as well as new machines. Commercial customers may select contract terms from 24 to 60 months for new machines, and installed equipment not currently being marketed. State and local government customers may select

contract terms from 12 to 60 months for new machines and up to 60 months for currently installed machines. Proposals are price protected for one month.

Q: How does HP's predictive maintenance for the HP 3000 work?

A: The predictive support service allows customers to use the HP proprietary Predictive Support software, which reads and analyzes system and peripheral logfiles and prints a status report on the system's functioning. The software will also send data to HP's Response Center for further analysis and diagnosis by HP customer engineers, who will determine if any on-site action is necessary. ■

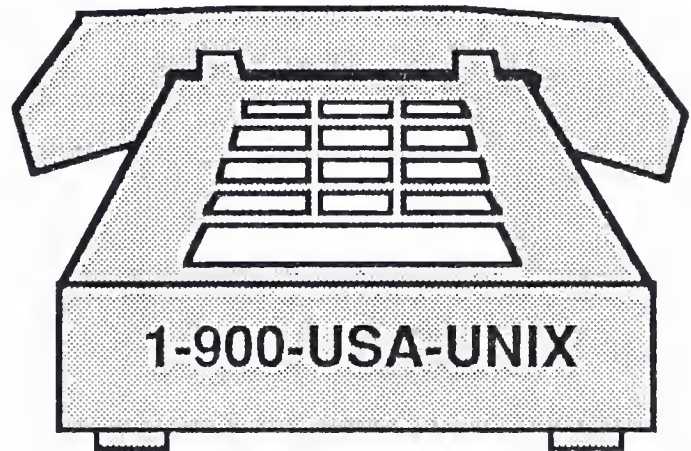
Snippets

- ❖ Hoskyns PLC reported an 8% drop in turnover to £102.8 million, although pre-tax profits rose 5% to £8.6 million. The company is anticipating that business will continue to be adversely affected by the economic downturn and sees no sign of an upturn in the market.
- ❖ Digital has opened a £1 million disaster recovery centre on the Isle of Man in the U.K., currently supporting three contracts.

- ❖ Siemens Nixdorf Informationssysteme had a loss of \$214 million on a turnover of \$2,872 for the 6 months to March 31, but is currently seeing an increase in its order books.
- ❖ A "non-threatening" facilities management service has been launched by the U.K.'s Gatton Synthesis Ltd. The intention is to relieve DP departments of application support responsibilities, thereby allowing them to concentrate on new developments.

U.S. Snippets

- ❖ Wyse has recently released four new and revised service programs. The first, Quality on Arrival (QOA), provides a new procedure for returning defective products. End users, VARs, or distributors return the products directly to Wyse, which repairs it and sends it back within five business days of receipt. The next program has extended the VP Express to include repairs or exchanges of board-level products within 48 hours via Federal Express at Wyse's expense. The third has combined the customer and technical support services into one toll-free telephone support service. Clients are no longer shuffled from one to another. The fourth is a change in the discount program. Wyse resellers and end users can purchase reconditioned equipment at up to a 75% discount.
- ❖ Sun has increased its network offerings through strategic partnership agreements with AT&T Computer Systems (cabling and networking products and services to Sun for resale to its customers), Anixter Brothers, (cabling and network components including bridges, repeaters, and connectors), and Cabletron (offering Cabletron's complete line of network products and services).



- ❖ Interactive Communications, a service bureau, is offering UNIX support through a 900 number at the rate of \$1.99 per minute. The 1-900-USA-UNIX is staffed by professionals from Today's Computers Business Centers.
- ❖ NCR and Amdahl have signed an agreement with Bell Atlantic Business Systems Services (BABSS) to provide maintenance on their equipment as subcontractors.
- ❖ On-Line Software has introduced an automated installation management system for its ProSeries called ProInstall. The system provides a centralized, on-line facility for installing and maintaining all ProSeries products.

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A Publication from INPUT's Customer Service Programme—International

July 1991

IN THIS ISSUE:

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Applied Learning International

This month the Service Update is viewing the training market by profiling Applied Learning International, one of the leading independent training companies operating in Western Europe. Because IS training is one of the rapidly growing segments of the customer services market (INPUT is forecasting a compound annual growth rate of 14% for the IS training market up to 1996), the approach adopted by a leading company in the market will be of interest to equipment vendors that are increasingly merging the operations of their customer services and professional services operations.

The Company

Applied Learning International is one of the leading providers of Technology-Based Training (TBT) worldwide. The training delivery modes are via interactive terminals handling a variety of multimedia training products. Delivery to the customer is by courier from a warehouse.

Applied Learning International was founded at the end of 1987 as a result of a merger between two companies, Advanced Systems Incorporated (ASI) and Deltak Training Corporation. Previously these two companies were competitors, each

supplying training products and services—in part related products and services, in part related to the implementation of information technology in user organisations.

The new company resulting from the merger, Applied Learning International, is a wholly owned subsidiary of National Education Corporation (NEC), which is based in California, USA. Applied Learning is the largest division of NEC. Other divisions include:

- International Correspondence Schools (ICS)

Continued on next page

ALI ...from page 1

- Steck-Vaughin, an educational publishing company
- Motivation Systems and Sales Training Company
- Vocational schools

Worldwide NEC achieved just over \$370 million in revenue in 1990. Although this revenue indicates a progressive decline from almost \$460 million in 1988 and a net loss for 1989 (\$29 million approx.) and 1990 (\$15 million approx.), these changes are explainable. A revenue decline of about \$31 million between 1989 and 1990 is attributed to Applied Learning training and publishing revenues and is due to the introduction of new terms and conditions for customer contracts that result in shorter contracts and more closely

matched revenue and cash receipts. The result in contract terms is to reduce revenue from multiple-year contracts.

A summary of the financial results of the parent company, NEC, is provided in the Exhibit A.

Applied Learning is listed on the New York Stock Exchange under the name of National Education; the stock is a Capital Growth Fund in which all profits are reinvested back into the company.

Applied Learning International is divided into two operational units—Domestic USA and International. The International division is responsible for all marketing and sales outside the USA, and the products are marketed in 50 countries through 70 offices. Representation in some countries is through

independent distributors, and all country-level subsidiaries and distributors report to International. The International management team resides in the U.K. Head Office, which is located in Chiswick on the outskirts of London. However, a number of International staff are also based in the Corporate Headquarters in Chicago, USA. In addition to the management of the two operating divisions, a Corporate Executive Committee co-ordinates worldwide activities.

The U.K. company is the largest subsidiary of International.

The distribution of NEC revenues by geographic region is illustrated in Exhibit B.

The Training Products

All training products provided by Applied Learning are based on Technology-Based Training (TBT) and are delivered as

Exhibit A

National Education Corporation
Worldwide Five-Year Financial Summary
(\$ Thousands)

Year	1986	1987	1988	1989	1990
Net Revenue	319,047	396,163	457,477	400,828	371,394
Net Income (Loss)	15,191	(679)	46,147	(29,341)	(14,939)

Source: INPUT

Exhibit B

National Education Corporation Geographic Revenue

Geographic Region	Percentage of Revenue		
	1988	1989	1990
USA	80	81	83
Europe	12	12	9
Canada	5	5	5
Other Foreign	3	2	3
Total	100	100	100

Source: INPUT

multimedia packages designed to run on interactive terminals. The media used for training include:

- Computer-based training (mainframe and micro)
- Interactive video instruction
- CD-ROM
- Linear videotape
- Audiotape

In cases where "live" training is required, this function would be contracted out by Applied Learning.

The training provided focusses on five key areas:

- Information professionals—aimed at technology

management. This is the core activity of Applied Learning and accounts for about 60% of AL's business in Western Europe. Within this area, activities are mostly concerned with the mainframe environment and are designed to help customers use mission-critical information technologies as strategic business tools, and they aim to provide the management skills needed to take full advantage of the systems. The scope of training ranges from programming to management skills and includes:

- Strategic uses of computing
- Information engineering
- CASE tools

- Artificial intelligence and expert systems
- Client/server model
- Networks as a vital business link
- Systems Application Architecture
- Relational database management systems
- Managing strategic systems
- Departmental computing—aimed at information-processing skills primarily for midrange systems but also including mainframes. Programmes focus on both proprietary and open systems; provide for the skill needs of analysts, programmers and operations staff; and range from entry-level to management positions. Included within the scope of this training is:

- Entry level and programming
- Systems analysis and design
- Systems Application Architecture
- MVS, VM, VSE, VS1
- AS/400, System/36, System/38
- Digital
- UNIX

Continued on next page

ALI ... from page 3

- Database and fourth-generation languages
- DB2 and SQL
- IMS and IDMS/R
- Data communications and networks
- CICS
- End-user computing—aimed at providing courses to help people in all areas of an organisation to apply new technologies to achieve business goals. The courses can be customised to include training on data security, office automation and mainframe or microcomputer systems. Courses include:
 - Information centre overview
 - Computing fundamentals
 - Personal computing
 - Mainframe computing
 - Departmental computing
 - Office information systems
- Manufacturing—aimed at providing comprehensive training related to the

acquisition of manufacturing and industrial skills. Courses focus on modern integrated manufacturing (MIM) technologies, new technical skills and the people issues involved in MIM implementation. Courses include:

- Total Quality Management (TQM)
- Industrial skills
- Just-in-time (JIT)
- People, organisation and culture
- MRP II
- Computer-integrated manufacturing (CIM)
- Purchasing

Applied Learning also provides a range of human resources development courses.

The company is active throughout Western Europe, and the revenues in this geographic area were almost \$45 million in 1990. The geographic breakdown of Applied Learning International revenues in Western Europe is tabulated in Exhibit C.

The Issues

The two key issues raised by Applied Learning are:

- The pace of change within the IT industry as a whole, including organisations and products/systems. The key challenge presented by this issue, for Applied Learning, is supporting the management of this change.
- Implementation of workplace on-line training tools and support. The key challenge for Applied Learning in this area is being able to provide reference information to support user training needs.

Other issues raised by Applied Learning International related to training activities in Europe include the following:

- The information services function within companies is becoming more decentralised. Therefore, training needs throughout companies are becoming more fragmented. The challenge is how to extend the range of contacts from the original single contact in an organisation in order to handle and penetrate a fragmented organisation.

Exhibit C

Applied Learning International European Revenues by Geographic Region

Geographic Region	Revenue (\$ Millions)		
	1988	1989	1990
UK/Eire ¹	28.6	30.4	31.3
Benelux ¹	2.5	2.8	3.2
Germany ¹ / Switzerland ² /Austria ¹	8.9	8.7	8.8
France/Italy/ ³ Spain/Portugal	0.3	0.4	0.4
Scandinavia/ ² Finland	0.6	0.8	0.9
Total	40.9	43.1	44.6
Annual Growth (Percent)	-	5.5	3.5

Notes: 1 indicates subsidiaries

2 indicates distributors

3 indicates agencies

Source: INPUT

an attempt to retain control. The challenge for Applied Learning is to manage the change from single-contract mode and the change in user working practices.

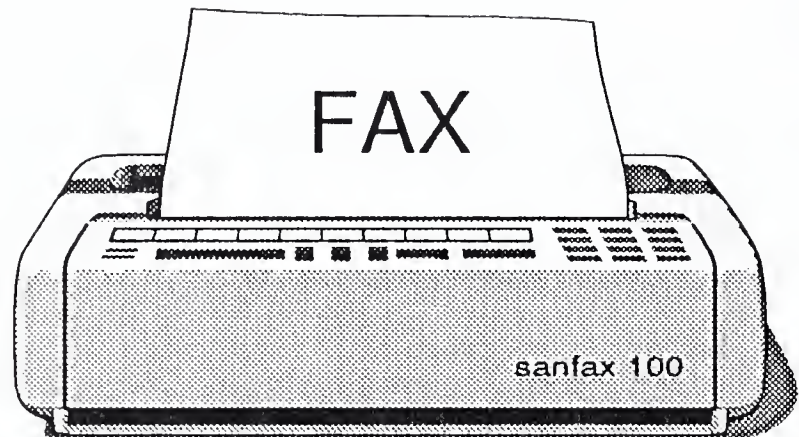
- New releases of industry standard software, for example Lotus 1-2-3, create problems related to course development. Lack of prior knowledge concerning the final release of software delays the course development process. The challenge is how to pre-empt these delays.

Applied Learning has found that industry recession does cause users to reduce or cancel training budgets. However, the company suggested that some users take a more sensible approach during recessionary periods by taking advantage of the recession to re-skill for the future. Further, Applied Learning believes that recession causes improvements in the focus that users apply to business needs and that this factor can be beneficial in the long term. ■

- Historically the company has sold one-, three- or five-year training contracts. The mechanism is that the customer would purchase a quantity of training units, which differ in size and value depending on the size of the contract. The use of these training units can be

organised to suit the customer's needs during the contract period. An issue related to this business methodology is that when a user organisation decentralises, the original single contact retains the training units available, rather than disperses them, in

News from the USA



The sale of the TRW Customer Services Division to Phoenix Technologies has fallen through. TRW states that the agreement to be acquired has expired and that TRW is not seeking new buyers. The Customer Services Division will remain as part of TRW Information Systems and Services Group.

Snippets

- ❖ Bull has established a sales office in Prague, Czechoslovakia and has plans for a second Czechoslovakian office in Bratislava. The company forecasts the doubling of sales through these offices year-on-year in the short term.
- ❖ Toshiba has announced the opening of a subsidiary company in the Netherlands to market PCs, fax machines and printers.
- ❖ Granada Computer Services (U.K.) has announced the promotion of Jeff Stanton to the position of managing director. The appointment will permit Peter Edwards (managing director of Granada Computer Services Europe) to concentrate on the strategic development of the European business. The company has also announced the winning of a £100,000 contract to maintain the shared computer unit of Avon County Council and Bristol City Council in the U.K.
- ❖ Unisys and KPMG Peat Marwick have reached agreement on a long-term business alliance. The arrangement includes the joint development and marketing of systems software products covering software engineering and 4GL products.

U.S. Snippets

- ❖ AT&T and NCR have created five transition teams to oversee the merger of the two businesses. The team in charge of the service division is the Marketing, Sales, and Hardware and Software Support team. It consists of seven NCR executives and eight AT&T executives. Gary Burnett, VP Customer Services, represents NCR, and Curtis Crawford, VP Sales, Services, and Support, represents AT&T.
- ❖ Diebold has completed the first two of five steps in phasing IBM ATM service clients over to Diebold service. These phases are for customers in the eastern, western, midwestern, southeastern, and central U.S.
- ❖ Bell Atlantic Business Systems Services is offering a free copy of its booklet, "Maintenance Tips for Your Microcomputer." Send a self-addressed, stamped envelope to: PC Maintenance Tips, Suite 1300, 211 E. Ontario St., Chicago, IL 60611.
- ❖ Prime Computer has signed a joint marketing agreement with Software Clearing House Inc. to provide Prime customers with more than 30 software products and support for systems running UNIX.
- ❖ Triticom has signed an agreement with Intellogic Trace (IT) to incorporate its product, WatchIT, into IT's LAN support product, Tech-In-The-Box.
- ❖ NCR has expanded its hot-site disaster recovery facility in its Software Distribution Center. The new hot site is a result of the merger between its Data Services and Customer Services Disaster Recovery Services. The expanded site is expected to accommodate at least 100 potential customers; there are currently 50 clients for disaster recovery services.

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Call CONNECT Unisys Set to Launch Enhanced Network Services

Unisys is set to launch a revised version of CONNECT, its network services. The launch, which will take place through country subsidiary organisations, is scheduled for September 1991 and will be followed by a launch programme to user groups in October 1991.

The original CONNECT programme was announced by Unisys in April 1990 and was

the subject of a detailed profile by INPUT in the June 1990 issue of *Service Update*.

In describing the extent of the new CONNECT programme Unisys quotes:

"The traditional approach to network support is to consider ISLANDS. Unisys CONNECT considers TOTAL ENTITIES".

Unisys further quotes that:

"The objective of CONNECT and the reasoning behind it is to make networking as easy as possible for all types of user".

In the original CONNECT service, Unisys integrated its customer services offerings in an approach that concentrated on physical networks. With the launch of the new CONNECT service, Unisys is integrating all its service operations into a total cohesive approach to networking, addressing both the physical and logical aspects.

Continued on next page

Unisys...from page 1

"CONNECT Considers Networks as Total Entities—Not as Islands".

The new CONNECT service ranges from conceptual phase through full implementation. The changes made to CONNECT reflect a much wider service offering achieved by integrating the services of Unisys' Professional Services Division and its Customer Services Organisation—and using this to provide a bridge

cycle and that it is necessary to understand where the network is in this life cycle. Unisys now claims that CONNECT is structured to meet network life cycle requirements. For example, the services oriented towards network life cycle, as defined by Unisys, are illustrated in Exhibit A.

Exhibit A

Network Life Cycle

- Planning, design and development
- Installation
- Commissioning, certification and implementation
- Provision of "a la carte" service
- Change management
- Operations management and enhancement

Source: INPUT

between these and other appropriate Unisys organisations.

Further, the new CONNECT service is designed to look at networks from the customer's viewpoint, recognising that networks have a designed life

As a consequence of the new CONNECT service, a customer need no longer be concerned

with the Unisys service infrastructure, and indeed, Unisys claims that the customer need not even know specifically what is required. All the customer needs to do is call CONNECT. With their first call, customers' answers to key questions provide guidance about their requirements. From this point, an appropriate resource can be identified to explore and address the customers' requirements further.

CONNECT is a central point that filters calls; it takes ownership of the customer.

Unisys is keen to point out that CONNECT addresses multivendor issues and needs, and end users' needs that are related to networking. Further, CONNECT can provide a general-purpose and repeatable packaged solution, or tailored customer-specific solutions. Included in the service offered are those features shown in Exhibit B.

CONNECT—Strategic Direction

Unisys claims that the strategic directions that led to the revised CONNECT services, and the basis on which the services were developed, resulted from research of user needs for networking and the difficulties that can arise from implementation.

"Call CONNECT —Unisys' Total Solution to User Networking"

Exhibit B

CONNECT—The Main Features

- Equipment
- Software
 - Systems software
 - Applications
 - Customer-specific applications
- Power systems
- Structured wiring
- Ergonomics

Source: INPUT

- Many users face problems in enhancing or extending existing networks, and many users simply add to their networks with an unplanned and uncontrolled approach. The invariable upshot of this approach is that the resulting networks are inefficient and inflexible. Such networks can diminish productivity and can place the user's business at risk.
- When network implementation and support remain separate, fragmented services, users may find they are taking responsibility for coordination themselves. Inevitably the user will end up taking responsibility for a highly complex system, and may not have the expertise to fully understand the system for which they are responsible.

Unisys' research indicates that user implementation of networks is an increasing trend. For example, the number of networks installed worldwide has doubled in the last two years, and this trend is set to continue. The research also indicates that users are experiencing a growing number of problems in developing efficient networks.

Users are keen to acknowledge the need for networks, and they are keen to improve and extend them. However, the complexity of the technology involved and the difficulties experienced by users—in what is a highly multivendor-oriented environment—are inhibiting the process.

It is against this background that the strategies for CONNECT have been developed. Exhibit C highlights the key elements of Unisys' CONNECT strategies.

In developing CONNECT, Unisys reasoned that from the user's point of view:

- There is a problem with finding and integrating technologies from a wide range of different vendors. Each vendor may be a specialist in its own field, but who will take responsibility for ensuring that all the various technologies will work together? Further, if faults or problems occur in a network, which vendor is responsible and who will resolve the problems?

INPUT's research, which was published in a report entitled *The Challenge of Network Service in Customer Services* in May 1990, concurs with Unisys' findings. The report concluded that the service and support of networks remains fragmented, with few vendors offering comprehensive approaches to network services, thus leaving users underserved in a vital area of their information systems infrastructure. The report further acknowledged that there was considerable user confusion over network support needs and the likely development of networks.

Continued on next page

Unisys...from page 3

Summary of CONNECT Services

The CONNECT service offering has six distinct but interlinked services. These services are identified in Exhibit A. These services are repositioned in Exhibit D to emphasize the focus on a total network solution.

The six key elements of CONNECT can be summarised under the following headings:

1. Planning, Design and Development

The major elements of this aspect of CONNECT are listed in Exhibit E.

At this phase, Unisys project managers and consultants work with the customer to explore all the options for linking the user's various computer systems together. At the end of this process, Unisys staff will determine the best solution to match the user's business needs—both in terms of supporting current business goals and ensuring that support for future business requirements is taken into account.

During this phase all activities are controlled by a Unisys project manager who remains the single point of contact until the work is completed.

Exhibit C

CONNECT—Strategic Direction

- Integrated total solution to address user networking requirements
 - Networking products and services
 - A la carte services
 - Multivendor services
 - Integration services
 - Project management services
 - Consultancy services
 - Customer education and training
- Provide focus to help implement the Unisys architecture
- Provide networking products and services that address any stage of the network life cycle
- Provide networking products and services that are designed to meet business needs

Source: INPUT

Exhibit D

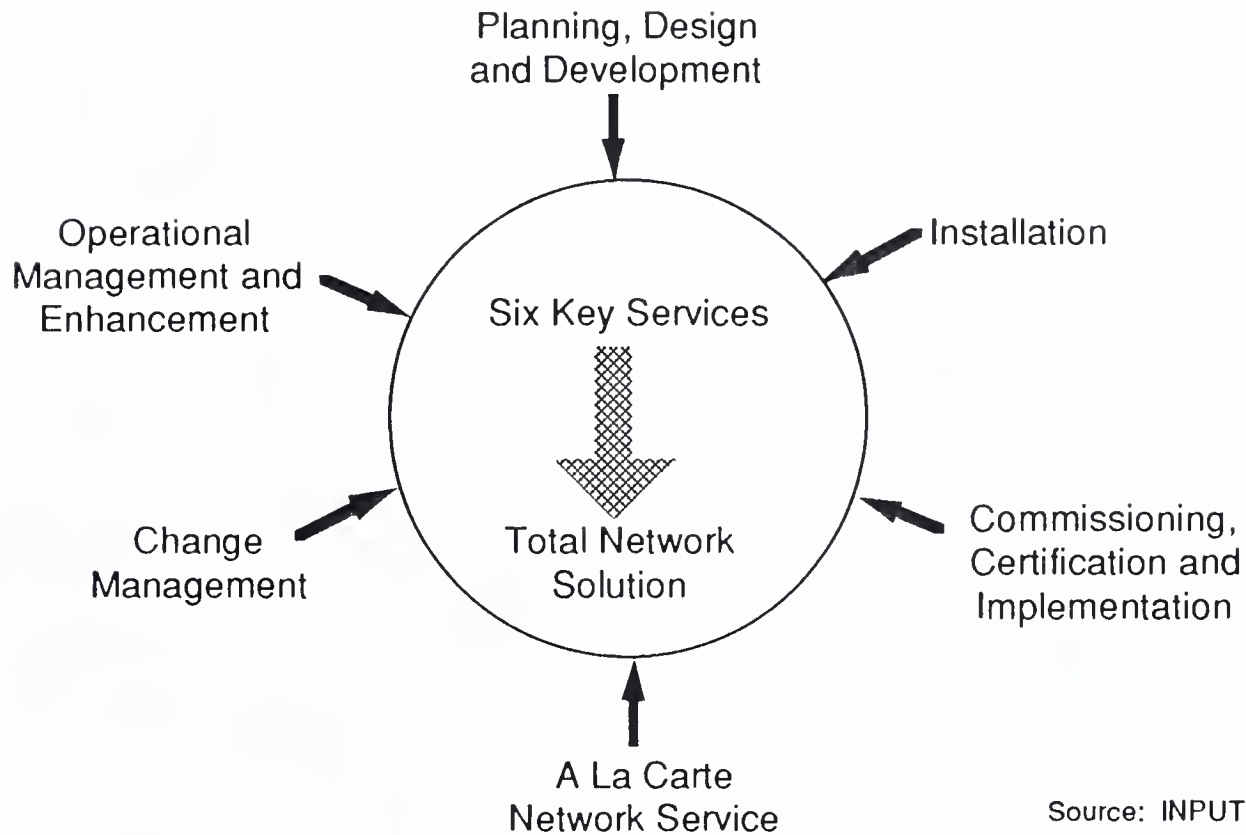
CONNECT Focuses on Total Solution

Exhibit E

CONNECT—Planning, Design and Development Services

- Analysing business requirements
- Evaluating the structure and locations of premises
- Determining the optimum topology and network products
- Developing applications software products, customised protocols and systems integration
- Designing in flexibility and adherence to standards
- Preparing the complete networking blueprint

Source: INPUT

2. Installation

Exhibit F provides a list of the elements of CONNECT that comprise the installation phase.

Unisys provides complete project management on site at every stage of installation.

The objective of the installation phase is to ensure that correct methods are used for installing structured wiring—taking into account the structure of the user's buildings—and often involves multiple sites in cases where a wide-area network is being installed. Other areas of concern at this stage are to ensure that installation is correctly monitored for

Continued on next page

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Exhibit F

CONNECT—Installation Services

- An integrated approach to installing all the components of the network
- Project management
- Development of co-ordinated installation plan
- Provision of optimum network products
- Integration of all components
- One-stop shop total installation turnkey service

Source: INPUT

All potential problem areas are covered, ranging from interfacing with PTTs to joining with an existing network.

Should faults occur during this phase of the project, immediate access to advanced diagnostic equipment helps in the speedy resolution of problems.

The implementation service takes a strategic management approach to this phase of the project. Phase one addresses pre-implementation tasks such as delivery and training schedules. Phase two incorporates all aspects of the delivery, such as "cold" or "hot" staging. Phase three is a post-implementation review that focuses on new or outstanding issues.

environmental protection and cosmetic acceptability.

During this phase of the project, the Unisys project manager is the central point of contact and has responsibility for all aspects of Unisys commitments. This responsibility includes completing the work within budget and on time, and controlling execution of the plan whether it is done by Unisys staff or by specialist contractors.

3. Commissioning, Certification and Implementation

The elements of CONNECT that comprise this phase of the project are identified in Exhibit G.

Objectives for the network commissioning and certification phase are to ensure complete management control at each

Exhibit G

CONNECT—Commissioning, Certification and Implementation Services

- Integrated with installation services or standalone
- Evaluation of all network components
- Ensuring physical and logical connectivity
- Ensuring network hardware and software operability
- Realising the complete networking blueprint
- Guarantying immediate beneficial use

Source: INPUT

step of the project while installation is being carried out and also to methodically check, monitor and test every connection point in the network.

4. A La Carte Network Service

A La Carte Network Service was developed by Unisys to allow users a choice in the type of support they require for their networks. It offers a complete menu of network services; the user has simply to choose which is appropriate to suit business needs. The objective is to provide the user with comprehensive service and support. The main features of A La Carte Network Service are highlighted in Exhibit H.

Through this service, the user gets a single contract to cover all network service and support. This total solution provides the user with everything from diagnostics and fault management to software maintenance. The key is the provision of immediate attention when needed.

5. Change Management Services

Exhibit I highlights the major elements that comprise the

CONNECT Change Management Services.

The objective of this service is to allow the user to implement

Exhibit I

CONNECT—Change Management Services

- Physical and logical management of changes in equipment and network configuration
- Project management
- Auditing and reviewing of network cabling methods
- Developing and introducing open cabling systems
- Recommending methods and systems to minimise the adverse effects of change
- Managing change to ensure networks always match business needs

Source: INPUT

Exhibit H

CONNECT—A La Carte Network Service

- The user chooses the support that best suits its business
- Provides expert support focussed on the whole network
- Includes multivendor support capabilities
- Delivers highly flexible, multilevel services
- One single contract for the whole network

Source: INPUT

changes to the network as the needs of the user's business change—for example, as a result of re-organisation, mergers and acquisitions, changes in business practice, or changes that involve office re-arrangement.

This service also allows users to take advantage of new technology as it becomes available, which ensures that their business operations remain fully efficient.

However, the key focus of Unisys' Change Management Services is "controlled change". This approach opposes the

Continued on next page

Unisys...from page 7

uncontrolled proliferation of cabling and equipment, which is often the result of hastily implemented additions, extensions and enhancements to networks. Controlled change is the key to maintaining efficiency and productivity levels within the user's business operations.

6. Operational Management and Enhancement

The major elements of CONNECT Operational Management and Enhancement services are listed in Exhibit J.

This service aims to ensure that the user has the opportunity to progressively enhance the network to achieve the best business efficiency possible.

Unisys reasons that ignoring a network until a change in working practices forces a change in the network is an inefficient approach that may cause the user to miss valuable

opportunities for improved performance, efficiency and improved cost effectiveness of the network.

The service includes network audits aimed at allowing the user better control of identifying redundant parts of the network and checking uncontrolled proliferation or duplicated resources. Also included are the

"CONNECT— A 'Drive Away' Network Solution"

Exhibit J

CONNECT—Operational Management and Enhancement Services

- Auditing and reviewing the efficiency of networks
- Developing solutions to improve cost/performance ratios
- Introducing the benefits of advancing technology
- Delivering packaged services for network implementation
- Monitoring and maintaining compatibility of software revision levels
- Reviewing the security of networks

Source: INPUT

monitoring and maintenance of the compatibility of software revisions and reviews related to the security of networks.

In conclusion, the relaunched CONNECT service could be described as a "drive away" solution to user's networking needs. ■

EuroPACE—An Innovative Training Operation in Europe

EuroPACE is a unique organisation, and is believed to be the only organisation in its market niche in Europe that uses satellite communications as a delivery mode for education and training.

EuroPACE recognises that its aims are ambitious, but also believes that they are realistic. The following statement reflects EuroPACE goals:

"To help European industry in its urgent need to stay competitive by providing the most up-to-date knowledge relevant for research, development, manufacturing and management using advanced information and communication technologies."

The success of EuroPACE is such that the organisation is currently delivering about 350 hours of new training material per year via the satellite link. In judging this success, it is necessary to take into account that EuroPACE is primarily a wholesaler, not a retailer; subscribers receiving the material record it and then disseminate it within their own organisations. Therefore, the actual quantity of training delivered to participants is

many times larger than the initial quantity transmitted by the EuroPACE organisation. The common language is English.

EuroPACE is a venture set up in 1988 by a number of leading international companies that are sponsors of the organisation. These sponsors are listed in Exhibit K.

Exhibit K

EuroPACE Sponsors

- British Telecom
- Bull
- DEUS
- Digital
- Fundesco - Telefonica
- Fundetec
- Hewlett-Packard
- IBM
- IRI
- NORIT
- Philips
- Thomson
- CRE
- SEFI

Source: INPUT

These sponsors are continuing to support the development of EuroPACE, and currently about 70 organisations across Europe regularly receive and record broadcasts. However, as EuroPACE points out, many of the receiving organisations are consortia; therefore, the total number of receiving organisations is much higher.

EuroPACE headquarters is located in Paris, and the organisation is registered as a French "Association" that members have to join. The organisation is not intended as a profit-making entity. The Chairman of EuroPACE is M. Hubert Curien, the French Minister of Research and Technology and Professor, University Paris VI.

There are four categories of membership of EuroPACE:

- The first two categories cover small business and academic organisations, for which the current membership fee starts at 11,000 ECUs per year (about \$15,000).
- Active members, for which the current membership fee starts at 38,500 ECUs per year (about \$53,000). Active membership is for companies or consortia that wish to be involved in the future planning of EuroPACE,

Continued on next page

EuroPACE...from page 9

and includes rights to attend all programme advisory groups.

- Full sponsors pay for membership in EuroPACE for a five-year period, which for the initial group ends at the end of 1992. All sponsors of the EuroPACE organisation are board members, and new sponsors are permitted to join. They initially paid 180,000 ECUs per year (about \$245,000) to set up the EuroPACE organisation. However, the annual sponsorship fee has now been reduced to 120,000 ECUs (about \$165,000).

EuroPACE defines its target market as the continuing education sector, which is divided into the following subsectors:

- Early employment
- Settling down
- Mid-life
- Late employment

EuroPACE has targeted the early employment group on the basis that this group is the most highly motivated, and in terms of high technology topics, is the group most in need of continuous updating. For this group, it is assumed that companies will pay for the access to EuroPACE material.

EuroPACE further reasons that for each subsector there are four motivational forces on which the learning process is dependent:

- Access
- Process

- Price
- Culture

EuroPACE sees the medium of satellite-based communications as a delivery mode for video training that attacks two of the four motivational forces—access and price. EuroPACE aims to lower the price of training. Although the company initially targeted the early employment group, on the basis that it was the group most motivated to learn, it is now seeking ways of accessing other sectors, in particular management.

EuroPACE research has indicated that the lowest level of motivation exists within the mid-life group. If this sector of the market is to be successfully accessed, the company culture needs to be right in order to create the right level of encouragement, both within the company organisation and within the individual.

The position that EuroPACE has taken on pricing is that it should be based on production cost. Production costs are relatively low, about 5,000 ECUs per hour (about \$6,900); therefore, the potential cost to users is also relatively low, providing that sufficient users subscribe. A further point made by EuroPACE is that the use of satellite communications as a delivery mode is very efficient. Using satellites, the staff head count is about 15. About 60 staff would be needed to package material for daily delivery using more conventional means, such as mail or courier delivery, and this number would increase as more receive sites were installed.

EuroPACE considers its business as "self service" learning, more selling a licence than selling a product. Subscribing members and sponsors who receive the material have the right to record and edit the material received for distribution in their own organisations. No limits are placed on this distribution provided it is within the defined organisation of member companies. Rights for resale of material can be negotiated with EuroPACE if desired.

Broadcasts are currently made via a Eutelsat 1 satellite which, although relatively low powered, provides good coverage throughout Europe. Most receiving sites can be served by a 1.8 meter motorised dish that costs between \$1,900 and \$3,800.

EuroPACE offered the following comments about the issues surrounding its service:

- The use of satellites aids the efficiency of delivery, and EuroPACE is a vehicle delivering expertise, whose price does not depend on the number of students.
- Production methodology is a key issue. People misunderstand technology and its driving forces. Training is important—technology is less so.
- The "warm body" approach to training is less interactive than many people believe. Interactivity as a critical component of training can be a misnomer.

- Training and its benefits needs to be marketed and sold. Additionally, major cultural changes are required to break down the barriers to extend training across a wide spectrum.
- From the point of view of EuroPACE, there is a need to find both well known and unknown experts to support its programme.
- Mass market training at low cost is an opportunity for EuroPACE.
- With regard to culture, it is very important that people are encouraged to learn, or that incentives are provided. Many companies do not yet have the right culture.

Currently the scope of material offered by EuroPACE extends beyond INPUT's definition of information services training. Those courses offered that do fall within the scope of this definition relate to the key topics listed in Exhibit L:

Examples of courses provided that relate to information services, to be broadcast in the year beginning September 1991, are:

- Case-based Reasoning (6 hrs.)
- Software Quality, Metrics and Testing (7 hrs.)
- Safety-Critical Control Systems (12 hrs.)
- Next-Generation Data Base Systems (10 hrs.)

Exhibit L

EuroPACE Key Topic Areas

- Advanced manufacturing techniques
- Expert systems and artificial intelligence
- Micro electronics
- Software engineering
- Telecommunications
- Technology management
- Information systems management

Source: INPUT

- Video Communications; Coding Compression and Transmission (21 hrs.)
- OSI Conformance Testing (10 hrs.)
- Innovation Management (10 hrs.)

There are a number of factors that differentiate the activities of EuroPACE from those of other companies that are delivering videotape-related training products; these factors include the following:

- Material is broadcast once only.
- Subject material tends to be related to leading-edge technologies.
- EuroPACE conducts about 12 live broadcasts each year on "hot" topics, such as expert systems, EDI and quality.

- EuroPACE encourages a diverse use of the material broadcast—i.e., copying, editing, etc.—to match client educational culture.
- EuroPACE commissions education and reportage and then broadcasts the material, for example the recent Super-Computer Conference.

The company uses satellites for delivery of television programmes; surface mail for delivery of printed documents; and computer conferencing, telephones and faxes for communication and feedback.

For further information on EuroPACE, please send a fax to the following:

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ICL and Bell Atlantic Form Joint Venture

The current round of expansionism at ICL continues. Following shortly after the announcement that ICL was to acquire Nokia Data came a new announcement that ICL and Bell Atlantic Business Systems Inc. of the U.S. are to form a joint venture.

The stated purpose of the joint venture is to provide total managed services in Western Europe. Total managed services is claimed to represent a wide range of customer services, required by large corporations, that go beyond just the hardware maintenance services traditionally supplied by independent maintenance companies.

The new joint venture company will have its headquarters based in London, U.K.

Bell Atlantic and ICL will each have a half interest in the joint venture company—Bell Atlantic Customer Services International, and in its operating companies. The operating companies are:

Sorbus U.K. Ltd.
Bell Atlantic Services clients
Sorbus Germany
Eurotech Italia

These companies currently provide computer maintenance services in the United Kingdom, France, Germany, Switzerland, Austria and Italy.

The new company will offer a wide range of services for

mainframe, midrange and networked personal computer systems from a range of suppliers, including IBM and Digital. Servicing of ICL computer systems will remain the responsibility of ICL.

Mr. Tom Vassiliades, President and CEO of Bell Atlantic Business Systems Inc., will serve as Chairman of the joint venture. In explaining the choice of ICL as a partner, Mr. Vassiliades said:

"ICL is unquestionably a successful computer systems supplier with a well-established base, a well-developed infrastructure and a fine reputation. This partnership is an ideal opportunity not only to support our business growth plans but, more importantly, to provide our customers with a varied and rich portfolio of services to meet all their business needs".

On behalf of ICL, Mr. John Proctor, ICL's Director of Services commented:

"This new venture represents another step in ICL's strategy for expansion in Europe and emphasises the increasing importance of high-quality maintenance and support services in the information technology market.

The combination of ICL's widespread and growing European infrastructure and service skills, and Bell Atlantic's

strong capabilities and state-of-the-art service technologies for non-ICL equipment, results in a partnership ideally positioned to bring the highest standard of service to organisations throughout Western Europe". ■

NCR-AT&T Merger

NCR and AT&T have moved closer to their merger with the joint filing with the Securities and Exchange Commission for the issuance of AT&T common stock in connection with the merger and public offering of 6.3 million shares of NCR common stock. NCR's proxy statement relating to shareholder approval was also filed with the SEC.

The NCR shares sold under the stock offering will be automatically converted to AT&T common shares as a consequence of the merger. The exchange ratio will be based on the average closing price of AT&T stock during the 20 consecutive trading days ending on the fifth day prior to the special meeting of NCR shareholders.

Morgan Stanley & Co.; Dillon, Read & Co., Inc.; and Goldman Sachs & Co. have been named co-managers of the U.S. and Canadian portions of the offering. The international portion of the offering will be managed by Morgan Stanley International; Dillon, Read Securities Limited; and Goldman Sachs Limited. ■

News from the U.S.

Novadyne Computer Systems, Inc.

Novadyne Computer Systems, Inc. was formed from a management buyout of the McDonnell Douglas Field Service Company in June, 1990. Novadyne provides third- and fourth-party hardware maintenance services, software support and network services to information systems end users, OEMs and resellers. The company also markets and services a full line of information processing systems in the PICK® and UNIX® marketplaces through a national network of distributors and value-added resellers.

During its first year of operation, Novadyne has retired 11% of its buyout debt, acquired the service operations of Distributed Logic Corporation of Anaheim, CA, and begun construction on a new headquarters in Santa Ana, CA. Total revenues are expected to be over \$104 million this year.

The Power of Many Combined as One

Novadyne comprises the joint capabilities of the former Microdata, McAuto and Tymshare field service organisations, as well as the firms that Novadyne has acquired since the merger of these organisations. Their charter is to provide flexibility in designing quality service

programs to meet customers' service requirements, and in essence, become a business partner with customers.

Client Base

Services are marketed nationwide to companies across all industries, including retail, transportation, distribution, communications, health care, educational organisations, federal government, and state and local government agencies. Major clients include American Express, McDonnell Douglas Systems Integration and emergency 911 applications across the country.

Products and Services

Service offerings include a wide variety of computer systems, graphic workstations, and communications hardware from over 100 manufacturers. Major manufacturers covered include DEC, Tandem, IBM, Sun Microsystems, Fujitsu, Cipher, Printronix, Emulex, and Control Data.

Levels of service options are:

- Basic coverage provides normal, on-site response during the principal period of maintenance (PPM) on a best-effort basis.
- Basic Plus Coverage provides a guaranteed four-hour, on-

site response and a two-hour grace period after the PPM, at no additional cost to the customer.

- Critical Coverage provides a guaranteed four-hour, on-site response and continuous work-through until the problem is solved, at no additional expense to the customer.

Novadyne's Central Dispatch system enables them to respond to a customer's initial service call 24 hours a day. The two major features of the Central Dispatch system are the automatic call handling and call escalation programs, which are designed to effectively track all calls through closeout.

- The Central Dispatch system routinely schedules preventive maintenance, opening a service call and paging an engineer to the site when preventive maintenance is due.
- Predictive maintenance is also scheduled and, if authorised by the customer, Novadyne's system will dial into the system, run diagnostic routines and make appropriate recommendations.

Novadyne's logistic centres operate 24 hours a day to ensure that critical service needs are met.

Novadyne also offers a Tandem disaster recovery program on numerous equipment configurations, with tape storage facilities on its premises

Continued on next page

Novadyne...from page 13

for the customer's SYSGEN. Using the Central Dispatch capabilities, Novadyne guarantees four-hour configuration response. As part of the program, customers receive 32 hours of Disaster Recovery Emulation on-site at the Novadyne Dallas Recovery site, and a data entry centre and remote terminal system support through the Recovery site.

Under the realm of fourth-party maintenance services, Novadyne offers 24-hour spares availability, depot repair, and full-service catalog sales.

- The Remarketing Services Group specialises in the sale and lease of hard-to-find spare parts.
- NOVADIRECT offers full-service catalog sales for

peripherals, supplies, and accessories.

- Depot repair services are offered through three centers located in Dallas, Philadelphia, and Irvine, California. The centers offer more than 60 state-of-the-art fault isolation systems and a Class 100A cleanroom with servo writers for sealed module disk assembly. ■

News from the U.S.

Enquiry Service

Ques: What maintenance support is available for ARCHIVE tape drive 2525ES and Syquest's removable cartridge SQ5110? Are on-site or depot services available?

Ans: Sysquest just started shipping the SQ5110 in February, 1991. Therefore, the units that are out in the market now are still under manufacturer's warranty. Sysquest expects that they will have a flat rate maintenance plan ready before the first units

come off from warranty. All maintenance/replacement will be handled through the distributors.

All of the maintenance for the ARCHIVE tape drives is handled through Maynard Electronics, a division of ARCHIVE. The units may be repaired on a flat rate basis, exchanged for another "like" unit, or exchanged for a different model at varying fees. ■

Snippets

❖ Alliances Enhance Single-Point-of-Contact Service

- Bell Atlantic Business Systems Service in the USA has announced the signing of two new alliances to enhance its ability to provide single-point-of-contract service to customers. The agreements with NCR of Dayton, OH, and Amdahl of Sunnyvale, CA, will offer BABSS the opportunities to expand into new marketplaces.

- UNIX hotline telephone support in the USA has moved into the 900 number pay-per-call market. Service bureau Interactive Communications offers a hotline staffed by reseller, Todays Computers Business Centers, answering calls on UNIX and DOS technical issues. The service maintains a profile of the user's configuration so that frequent callers can jump to the point of the call, eliminating the preliminary questions.

Snippets

- ❖ Thorn EMI Software, one of the U.K.'s largest computer services companies, has been bought out by its own staff and management in an £82 million (about \$160 million) buyout. The buyout was led by the existing chairman and CEO, Mr. Mike Smith.
 - The company was renamed Data Sciences on August 1st. Thorn EMI will retain a 20% shareholding in the new company.
 - In 1990, as Thorn EMI Software, the company had a turnover of £117 million (about \$225 million) and generated pre-tax profits of £6.2 million (about \$12 million)
 - Data Sciences employs 1,950 staff across 14 sites, including operations in Germany and the Netherlands.
- ❖ Granada Computer Services has been in the news recently in the U.K. and has made the following announcements:
 - On 20th June, Granada announced that it had been awarded a maintenance contract by V.A.G. (U.K.) Ltd. (Volkswagen/Audi). The contract covers a period of three years, is claimed to be worth £350,000 (about \$680,000) and includes maintenance of an IBM 3090 mainframe, IBM S36, PCs and Xerox laser printers.
 - On 1st July, Granada announced that the Avon County Council and Bristol City Council had awarded it with a single-source maintenance contract valued at £100,000 (about \$195,000). The contract covers maintenance of an IBM mainframe and multivendor peripherals at both central and distributed computer sites. One advantage of awarding the contract to Granada was claimed to be the elimination of demarcation disputes in a multivendor environment.
 - On 4th July, Granada announced the appointment of Mr. Jeff Stanton as the new Managing Director of the U.K. operations. Mr. Stanton will report to Mr. Peter Edwards, MD of Granada Computer Services Europe. Previous to this appointment, Mr. Stanton had been deputy MD of Granada Computing Services Europe.
 - On 19th July, Granada announced the appointment of Mr. Joe Connolly as Regional Sales Manager for the Midlands region in the U.K.
 - At Procurement '91 in the U.K. (11th-13th September) Granada will be explaining the benefits of independent computer maintenance to computer users in the U.K. public sector.
 - On 1st August, Granada announced that it had been selected by Northern Electric in the U.K. to maintain vital computer equipment used for internal operations. The contract is claimed to be worth over £125,000 (about \$240,000) per annum, covers four regional offices and 19 depots, and guarantees a four-hour fix time on PC file servers.
- ❖ Digital Equipment Hong Kong has been awarded a contract to maintain Cathay Pacific Airways' reservation terminals and associated equipment. The two-year, worldwide contract is worth over \$3 million and covers about 4,700 pieces of equipment installed in 56 countries—equipment mostly supplied by L.M. Ericsson.

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

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Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Service Update

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IBM Links Achievement of Corporate Goals to Customer Satisfaction

Part 1 of a Major Review of IBM UK Customer Service

Some time ago the chairman of IBM, Mr. John Akers, stated publicly that it was IBM's corporate goal to become a services company and that by the mid 1990s IBM would achieve 50% of revenues from services.

This profile highlights:

1. How IBM UK has set about implementing a strategy with a plan to achieve service excellence through commitment to customer satisfaction as a key element

2. That customer satisfaction rates the highest priority in IBM and is seen as a route to successful financial performance

3. How IBM UK has related customer services incentives to measurable achievement of customer satisfaction goals

The profile relates specifically to IBM UK; all IBM country subsidiary organisations retain a high degree of autonomy. However, other country organisations can follow a

similar basic concept/approach to that developed by IBM UK.

In pursuance of the IBM corporate goal, IBM UK Customer Service has implemented a plan that focuses very clearly on achievement of results through measurable performance. Exhibit A illustrates how IBM UK has matched its implementation plan to the corporate culture on which achievement of the key goal to become a services organisation is based.

Continued on next page

IBM...from page 1

"Customer Satisfaction Is Key to Financial Performance"

In order to understand more fully the "raison d'être" of IBM UK Customer Service in interpreting the requirements of IBM's corporate goal it is necessary to take each of the three elements illustrated in Exhibit A and explain them in detail. These three elements are:

The Goal Defined

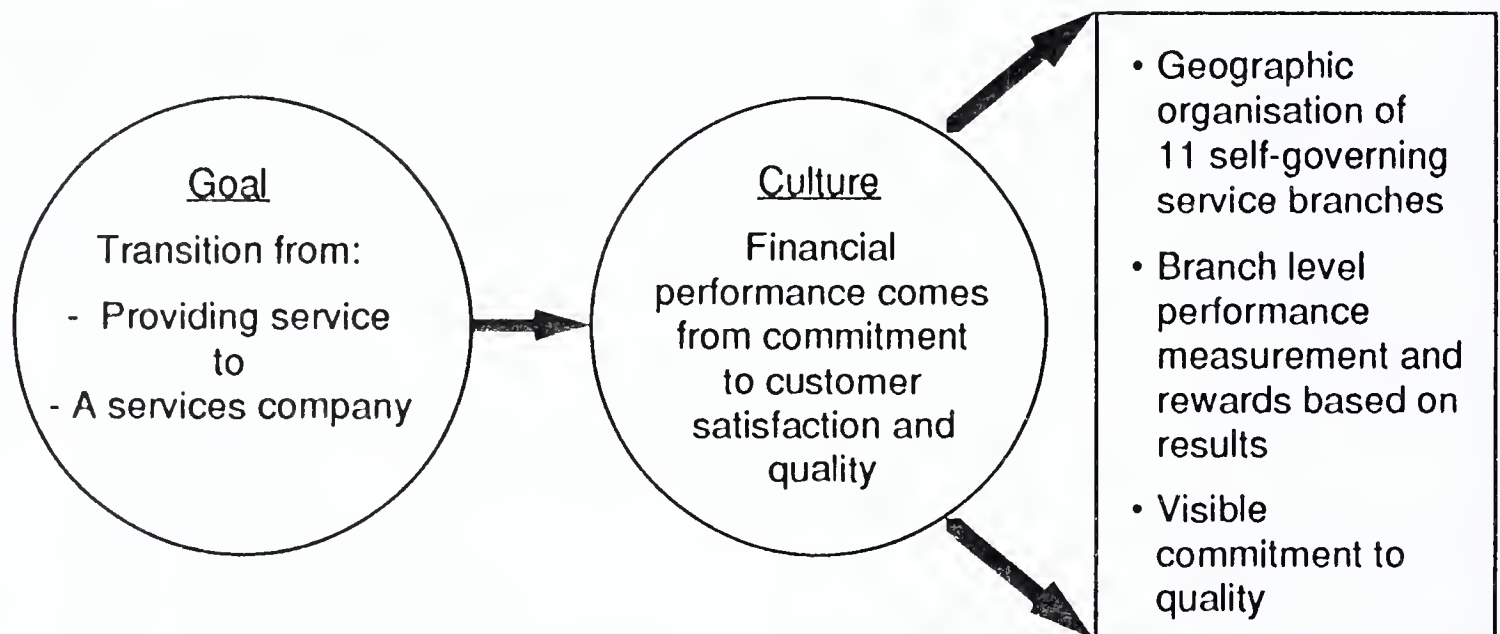
Some time ago, in 1987 to be precise, IBM UK Customer Engineering commenced implementation of a key strategy aimed towards the development of a revenue stream that would be comprised

While progressing along this chosen path the name Customer Engineering has disappeared to become Customer Service.

While IBM will not release precise data to indicate exactly the degree of achievement in meeting the revenue target, it claims to be well on course at this point in time. INPUT's estimate is that currently (1991) the revenue split is about 80% service - 20% services, at worst. INPUT also estimates that other country subsidiaries are proceeding more slowly along this path.

Exhibit A

IBM Key Strategy



Source: INPUT

- The Goal
- The Culture
- The Implementation

of 50% revenue contribution from service and 50% revenue contribution from services. The target date was set for 1995.

The service/services distinction made by IBM requires further explanation and that explanation is provided in detail in part 2 of the profile which

discusses the range of services available from IBM UK. However, the distinction is much more complex than just a range of service offerings and a change of name. Further clarification can be provided as follows:

- The worldwide IBM Corporation Annual Report contains, within the financial results, a line item headed "maintenance" which typically accounts for about 14% of total revenues.

performance results primarily from customer satisfaction and quality. Other factors rank lower in IBM's list of priorities. Exhibit B provides an indication of how IBM grades its worldwide business and the ranking that each item holds in the cultural hierarchy. The key factor highlighted by Exhibit B is that user satisfaction rates number one priority and that market share and financial performance take up the position of follower rather than leader.

- In the first instance if *customer satisfaction* is not achieved, and progressively improved, customers will find alternative suppliers, and quickly. In IBM terms, customer satisfaction is defined as the difference between expectation and experience. Throughout the year IBM anonymously surveys customers worldwide to assess how customers feel about the support, value and solutions they receive from all their computer suppliers. By undertaking this activity IBM claims that it learns about customer loyalty and whether or not customers feel they have a partnership with their suppliers. To achieve this understanding IBM, for example, surveyed 70,000 customers in 38 countries in 1990.

"Maintenance = Maintaining the Customer in Business"

- Maintenance as defined by IBM means "maintaining the customer's system availability" or "maintaining the customer in business". Therefore, maintenance in IBM terms will include traditional equipment maintenance and a range of non-maintenance "services".
- Service refers to traditional remedial activities. Services refer to value-added services. Therefore, revenues reported as maintenance by IBM include revenue from value-added services.

In developing this type of cultural environment IBM reasons that

Exhibit B

IBM Business Measurements and Priorities

The route to successful financial performance	
Ranking	Item
1.	Customer satisfaction
2.	Quality
3.	People
4.	Market share
5.	Financial performance

Source: INPUT

The Culture

The cultural environment within IBM, in which the goal of becoming a services company is key, is that successful financial

Continued on next page

IBM...from page 3

- *Quality* measures relate to a number of different aspects of IBM's business activities, but the corporation considers that terms such as billing accuracy, first-time fix and marketing/system engineer skill are the top concerns of customers. Other aspects of performance in quality measurements include:
 - On-time delivery—are we meeting commitments to customers?
 - Warranty costs—indicate how well IBM's MDQ (Market-Driven Quality) efforts are working.
 - Education—provides a measure of how many employees worldwide have received basic education in MDQ methods.
 - Systems technology and software quality will soon be added to the list of measures.

Quality assessment is based on a scoring system similar to that used for the U.S. Malcolm Baldrige National Quality award and indicates IBM's progress towards a goal of achieving a perfect score of 1000 points by 1994.

- In an organisation of 370,000 employees, *people* are a key factor and IBM takes the view that the opinions of employees are a key measure of how successful the corporation is in

transforming its organisation from one of being technology driven to one of being market driven. Achievement of this assessment is via employee surveys in which employees are invited to express opinions on:

- How involved they are in market-driven quality?
- How much progress they are making towards the market-driven quality goal?
- Gauging perception of management support and how well IBM's goals for market-driven quality have been communicated to employees
- *Market share* and growth are used as measures of IBM's success in primary product and service categories and can be segmented by country/geographic area or by customer grouping. The objective of including this item on the list of IBM business measures is to enable executives to tell at a glance how IBM is performing compared to the market overall.
- *Financial performance* indicates how healthy the corporation is in financial terms and includes information on historical performance and future prospects.

A more detailed example of what is known as the "corporate score card" is shown in Exhibit C. These documents are updated monthly.

Strategy Implementation

As stated earlier in this profile, the IBM UK strategy for achieving customer satisfaction is focused on three key areas:

- Organisation
- Results orientation
- Quality commitment

The implementation of this strategy as discussed in this profile deals primarily with the Customer Service organisation, but by implication should also concern the overall organisation of IBM in the United Kingdom. An outline of the IBM UK organisation is provided in Exhibit D. This exhibit highlights that the overall marketing operations of IBM UK divide into four segments that are comprised of three industry sectors and one geographic sector. Briefly:

- The Commercial Sector is divided into eight geographic areas covering the whole of the U.K. and also includes the AIX and ABS business units.
- The Industrial Sector covers the manufacturing sector, including, for example, the automotive, steel, oil and pharmaceutical industries. Also included in this sector is the Printing Business Unit.
- The Banking, Financial Services and Retail Sector includes areas such as Central Banking, City of London, Insurance and Financial Services and the Image Solutions Centre.

Exhibit C

IBM Business Measurements

Customer Satisfaction	1990	1991 Status	1991 Plan	Objective	Best Competitor
Overall Satisfaction	-	-	-	-	-
Partnership	-	-	-	-	-

Quality	Defect Elimination			
Education -	Warranty Cost -	Billing Accuracy -	Mktg/SE Skill -	
Assessment -	On-Time Delivery -	First-Time Fix -		

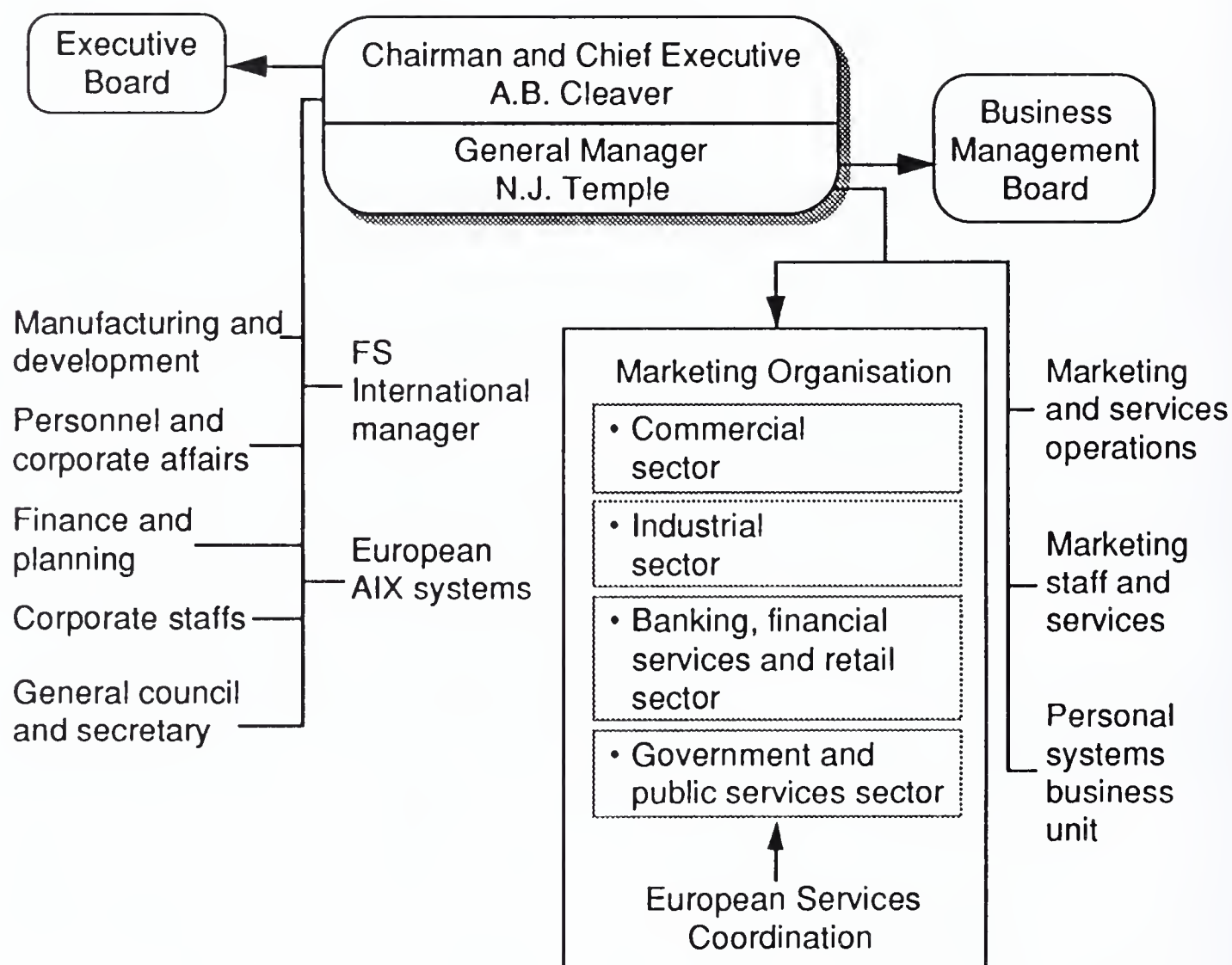
People	1990 Managers	1990 Non Managers	1991 Status Managers	1991 Status Non Managers
Market-Driven Quality Index	-	-	-	-
Participation Index	-	-	-	-

Market Share	IBM/Industry Revenue Growth			
Y/E 1990	YTD	Plan	Outlook	Long-Range
-	-	-	-	-

Financial Performance	Year-to-Date			Current Year		Steady State Objective
	Actual	vs. Last Year	vs. Plan	Plan	Outlook	
IBM Revenue	-	-	-	-	-	-
Gross Profit Margin	-	-	-	-	-	-
Opex	-	-	-	-	-	-
Debt Margin	-	-	-	-	-	-
Capital Expenditures	-	-	-	-	-	-
Total Assets	-	-	-	-	-	-
Return on Assets	-	-	-	-	-	-
Return on Equity	-	-	-	-	-	-
Free Cash Flow	-	-	-	-	-	-

Continued on next page

Exhibit D

IBM UK Organisation

Source: INPUT

- The Government and Public Services Sector includes the airline industry, central government, local government and health. Also included in this sector is the Enterprise Systems Business Unit.

Exhibit D also highlights that the executive management of IBM UK is overseen by two new boards, the Executive Board and the Business Management Board. The appointment of these two boards occurred in April 1991 and replaced the former Management Committee and Services Operations Committee. The role of the Executive Board is to set company-wide goals consistent with direction from European Executive Management, whereas the role of the Business Management Board is to develop and execute strategies and operating plans concerned with achievement of country-level goals.

At the mid-year Managers' Briefing meeting IBM UK chairman and chief executive, Mr. Tony Cleaver, said:

"Our prime objective now is to improve our customer satisfaction level—and we have restructured the company in an unprecedented way to make this happen"—"The way to increase customer satisfaction is by applying Market-Driven Quality techniques."

As part of recent reorganisations within IBM UK, the Customer Service organisation is now structured as 11 geographic branches that are self-governing. Formerly the organisation was based on regions. Further, each

Customer Service branch is assimilating systems engineering responsibility by implementing a job role referred to as Customer Operational Support Specialist.

However, organisational changes are one matter; more important is that the changes result in measurable performance improvements—from the company's point of view and from that of customers. IBM UK claims that it is achieving these improvements in two ways—through the REFLEX programme and by implementing visible quality.

REFLEX Programme

In January 1991, the Customer Service organisation introduced REFLEX, a customer survey programme that addresses timing and action. The name REFLEX indicates the bounce-back nature of the programme, which for the present applies only to hardware-related calls.

The reasoning of IBM Customer Service behind the introduction of REFLEX is that the existing customer survey, which is still in operation, is not sufficiently proactive or reactive enough for Customer Service. The "normal" IBM customer satisfaction survey is carried out twice per year, using a random selection from the customer base, and covers all aspects of service.

REFLEX is different:

- Interviews are conducted with the true end user.

- Users are interviewed by telephone and interviews are focussed towards customers who placed a call with Customer Service the previous week.
- Each branch conducts 100 customer interviews per month, equating to 1,200 total interviews per month and 14,400 interviews per year.
- The aim of REFLEX is to be proactive and reactive.
- Calls take less than a minute of the customer's time, to minimise disruption to the customer's business.

The REFLEX survey asks just four questions of customers, when interviewed, on the basis that "you have used IBM service":

1. "When you placed your call for service, were you satisfied with the way that it was handled?"
2. "Did the time between your call and the solution to your problem meet your expectations?"
3. "Did our [IBM] service representative perform the work in an efficient manner to your satisfaction?"
4. "Did our [IBM] overall service performance meet, exceed or fall below your expectations?"

Data collected during REFLEX programme surveys is used in

Continued on next page

IBM...from page 7

two ways. Firstly, branch manager performance is measured, year to date, on selected target results. Secondly, statistics collected as a result of the REFLEX programme are used to calculate an incentive element of each Customer Service branch manager's salary. Objectives for the REFLEX programme and the improvements that result from its implementation are that IBM is committed to halve the percentage of dissatisfied users by the end of 1991. The ongoing objective for REFLEX is to reduce the number of dissatisfied users to zero.

The REFLEX survey is conducted by an independent market research organisation and interviewers are briefed to respond to customers who express great dissatisfaction. The interviewer can ask if the customer would like their concerns referred to the appropriate Customer Service branch for immediate attention.

performance matches customer expectation.

The internal impact of REFLEX has also proved to be important. According to IBM, implementation of the programme has led to a high degree of excitement, discussion and anticipation within the internal organisations—raising competitive spirit.

INPUT considers that by implementing the REFLEX programme IBM has significantly raised the level of its commitment to customer satisfaction. Of particular note is firstly the continuous nature of the programme and the way results are updated in almost "real-time". Secondly, and perhaps most importantly, is the way the programme has been developed to provide a results-oriented component that influences incentives at the branch level.

At the start of 1991, when the REFLEX programme was implemented, IBM found that a relatively consistent 93.5% of

success rate meant that each Customer Service branch was still disappointing one customer every hour, 365 days per year.

Being obsessed with quality and defect elimination, IBM now talks in terms of failure rate instead of success rate. It started the year with a 6.5% failure rate, claiming that by August this had been reduced to 2.9% and in September to 2.2%.

The success of REFLEX in terms of reducing failure rates has surpassed IBM's original target of achieving a level of 3% by the end of 1991. Over the same period, January to September 1991, the number of calls referred to the Customer Service branches for immediate attention is claimed to have been reduced by 80%.

Though it claims considerable success in reducing failure rates, IBM does not intend to relax. Its goal is to achieve zero defects; IBM Customer Service claims that REFLEX is the most powerful tool it has to achieve this goal.

INPUT contends that taking into account the sheer size of the IBM customer base it is commendable that an organisation of this size should achieve such a high degree of success in customer satisfaction.

"REFLEX — A commitment by IBM to achieve totally satisfied customers."

IBM claims that REFLEX is a clear indication to customers that it wants to offer high-quality service and one objective is to provide a clear signal to customers that IBM really cares about their opinions. Further, by implementing REFLEX, IBM wants to ensure that service

customers were satisfied or delighted with the quality of service received from IBM. By May, 1991 this figure had increased to 95% as a result of the REFLEX programme, a commendable result. However, taking into account the large number of customers, a 95%

One further aspect of REFLEX is that it provides opportunity for an ongoing dialogue with customers. INPUT contends that regular communication is also a key element of improving customer satisfaction.

Visible Quality

As part of IBM's commitment to customer satisfaction the topic of quality in all aspects of the business rates highly, not just quality but QUALITY. IBM's commitment to quality can be assessed in three parts:

- Implementation of the REFLEX programme
- Introduction of MDQ (Market-Driven Quality)
- Visible and demonstrable proof of that commitment

The successful assessment and registration to BS 5750/ISO 9001 was gained within the British Standards Institute's (BSI) "Corporate Approval" programme and covers all IBM UK's products, goods and services, including the marketing organisation.

IBM is keen to point out that certification by the BSI is not granted just on the basis of an original sample audit, but is part of a continual assessment programme. IBM indicates that in practice the continual assessment programme means that the BSI will assess all IBM

visibility to IBM UK's commitment to quality in every aspect of our businesses."

The announcement also coincided with a visit to the U.K. by IBM Chairman Mr. John Akers, who in commenting on how pleased he was at the achievement said, "It is a continuation of the quality drive we are putting the whole Corporation through."

Range of Services

In part two of this in-depth profile on IBM UK, INPUT will review in detail the range of services provided by the Customer Service organisation.

Part two will be published in the October 1991 issue of Service Update. As a preview of this second part Exhibit E illustrates the approach adopted by IBM.

In describing the model illustrated in Exhibit E, IBM uses the anachronym SPIOME, which can be explained as

- S → Strategy
- P → Planning
- I → Implementation
- O → Operation
- M → Maintenance
- E → Evaluation

IBM has recently brought together all of its Consultancy and Services offerings under a single KNOW-HOW marketing banner. Within the SPIOME business cycle, the IBM Customer Service function offers a wide range of services which primarily address the I, O and M phases.

"IBM UK Achieves Company-Wide BS 5750/ISO 9001 Certification"

IBM's commitment to demonstrable quality is not new. As early as August 1986 the Customer Service Organisation (then Customer Engineering) was awarded national BS 5750/ISO 9001 certification. This was achieved in August 1986 and not "recently" as was reported in the U.K. computer press earlier this year. This award makes IBM one of the very early qualifiers for this certification award.

Of more significance, in May this year IBM UK was awarded company-wide BS 5750/ISO 9001 certification and claims to be the first major company in the U.K. to achieve company-wide recognition at this level.

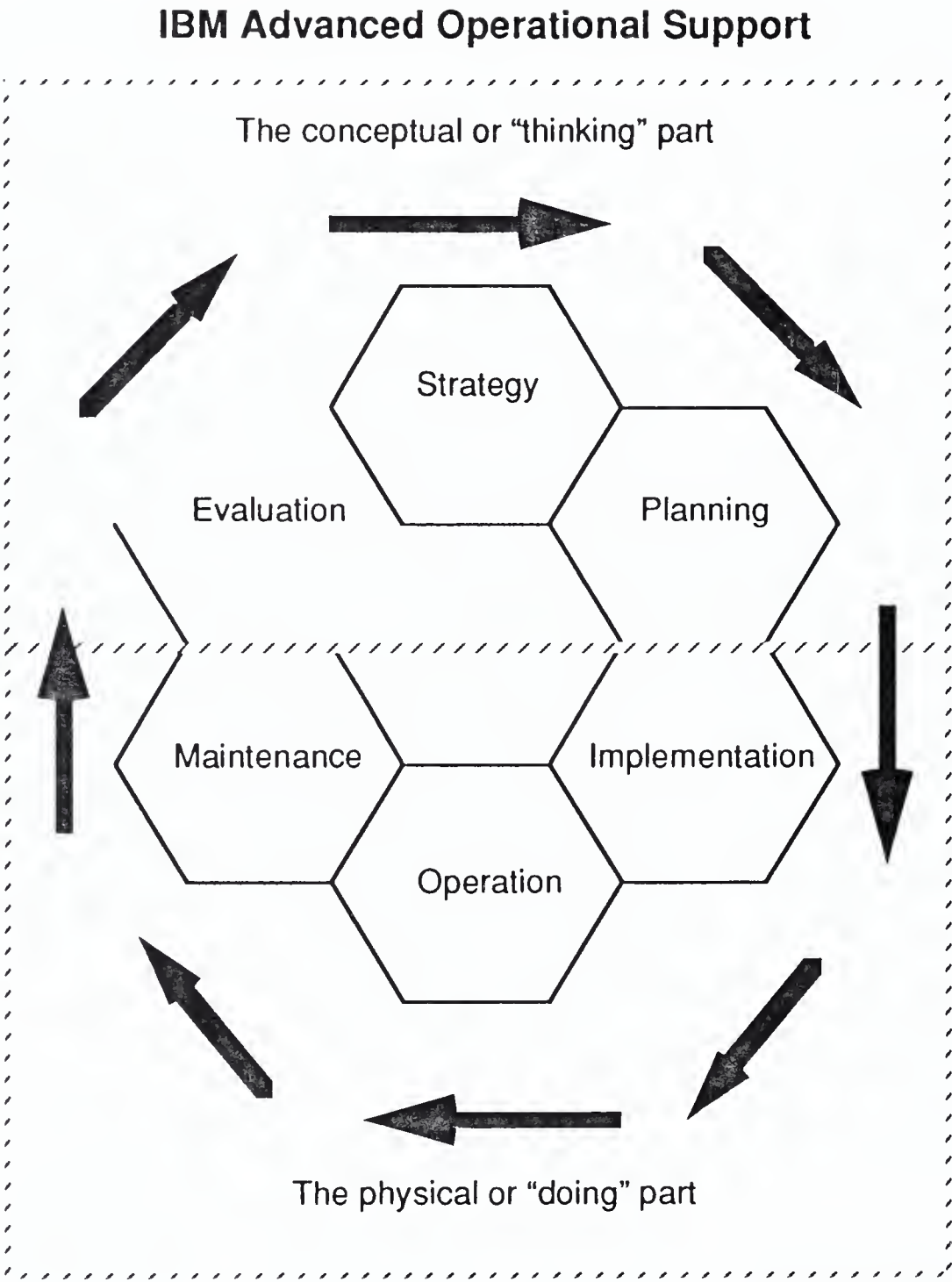
UK sites at least every two years and with only 48 hours' notice given for a reassessment visit. Maintaining registration is dependent on the outcome of these periodic reassessments by BSI; therefore the standards under which certification was first awarded need to be consistently maintained.

The award of company-wide BS 5750/ISO 9001 was announced by IBM UK Chairman and Chief Executive Mr. Tony Cleaver at a senior management meeting. In commenting on the achievement Mr. Cleaver said: "Achieving the award is a valuable first step on the road to Market-Driven Quality—and of course it is a powerful marketing tool, giving

Continued on next page

INPUT

Exhibit E



Source: INPUT



NCR/AT&T Update

At the end of August, NCR & AT&T announced a change to the original plan of a public offering. The companies have agreed to sell all of the 6.3 million shares of NCR common stock in a direct placement at a price of \$102.75 per share to four clients of The Capital Group, Inc., a Los Angeles investment management organisation. The four companies are Capital Research and Management

Company (manager of The America Funds Group), Capital Guardian Trust Company (manager of institutional accounts), Capital International Ltd. (London), and Capital International S.A. (Geneva).

The NCR stock is being issued to allow AT&T to account for the merger as a pooling of interests. The sale of NCR shares will be completed after

NCR shareholders approve the merger at a meeting scheduled for the beginning of September.

In a later release, NCR and AT&T announced that 2.839 shares of AT&T stock will be exchanged for each share of NCR stock in AT&T's all-stock acquisition of NCR. If the merger is approved by shareholders, AT&T and NCR expect to close the merger the following week. ■

Intellogic Trace

The Company

Intellogic Trace (I T) was formed as a spin-off of Datapoint Corporation's U.S. customer services division in 1985, acquiring the Canadian subsidiary of Datapoint in 1990. I T has an exclusive agreement with Datapoint to maintain Datapoint systems. Therefore, I T has, in effect, been in the business of providing premium computer maintenance services since the late 1960s.

Intellogic Trace, headquartered in San Antonio, Texas, offers customers three basic categories of full-service support: maintenance services for business computing systems; sales and leasing of equipment and industry-specific software; and a wide variety of technical support services. I T offers services throughout the U.S., Canada, and Puerto Rico. The company had total revenues in 1990 of \$153 million, with 200 service locations and 1,500 employees.

Service Offerings

Intellogic Trace is considered to be one of the largest independent maintenance companies in the U.S., providing third- and fourth-party maintenance services. I T is an Authorised Service Provider for many companies, such as Arix, AST, Compaq, Facit, Gestetner, GRiD, Hyundai, Novell, Samsung, Televideo, Toshiba, and Wyse. Services are provided on an on-site maintenance basis as well as

Continued on next page

INPUT

Intellogic...from page 11

through carry-in and mail-in centres nationwide. The average turnaround time for equipment serviced through the carry-in centre is from three to five days, with a 90-day warranty on parts included.

In response to customer demands, Intellogic Trace has expanded its on-site maintenance business to include over 5,000 products from over 350 vendors. Equipment maintenance accounts for over 70% of I T's total revenue. I T is attempting to distinguish itself in the service marketplace as a full-service provider, tailoring offerings to the requirements of the client. Flexible service contracts are written with guaranteed response and repair times according to the requirements of the client. Customers can also take advantage of special mail-in service or 24-hour exchange by courier programs according to the criticality of the system. I T also offers high-level technical support capabilities, as shown in Exhibit F.

I T believes that one important criterion of quality is promptness in the delivery of products and services. Recent innovations by I T include the ANSWER inventory distribution system, the "Tech-in-the-Box" electronic tool box, and two-hour response time on failures of network file servers. The Tech-in-the-Box electronic tool kit allows the technician to

trouble-shoot networks using a PC/AT clone with special hardware and software features. The Tech-in-the-Box plays the part of a known good computer, connecting to the failing peripheral or network, isolating failing components without bringing down the network.

centres. Refurbished Wang equipment and compatible peripherals are offered, in conjunction with a co-marketing agreement with EMC for Wang-compatible storage products (main memory and high-speed disk subsystems) for Wang VS systems.

Exhibit F

Intellogic Trace Full-Service Capabilities

- Conversion assistance
- Telephone support
- Disaster assistance
- Staging and integration
- Installation services

Source: INPUT

Intellogic Trace also offers special capabilities for IBM midrange systems, Wang systems, Novell LANs, and microcomputers.

- IBM Midrange Systems: The Uniplan package includes low-cost equipment sales and leasing alternatives, maintenance services, and a wide variety of technical support services.
- Wang Systems: A comprehensive service package incorporates specially developed diagnostics, guaranteed phone and on-site response time, and ready access to local and regional parts

- Novell LANs: I T, an authorised Novell Support Organisation, offers premium maintenance and support for Novell users. I T has developed an in-house training program for CEs covering the NetWare operating system, system management, service, diagnostics, trouble-shooting, and data communications.
- Microcomputers: I T specialises in providing maintenance services to firms having microcomputers from multiple vendors in geographically dispersed locations. I T has broad experience, servicing virtually every name brand microcomputer. ■

Snippets

- ❖ In the U.K. it was announced this September that the French company France Cables et Radio has taken a 30% shareholding in the U.K. company, Infact Ltd.

The interest for customer services in this announcement is that Infact is an intelligent buildings and communications consultancy. The company is based in London and as a result of the share acquisition, the existing U.K. business of France Cables will be handled by Infact.

France Cables et Radio is a subsidiary of France Telecom and recently formed a joint venture satellite services company with Maxwell Communications Corp PLC. This joint venture is also London based.

- ❖ An example of successful application of ISDN to the disaster recovery sector has been provided by Datashield Ltd. This example concerns a test involving the delivery of back-up services across the channel to France from the U.K. Involved in this exercise were Sogeris SA, a French disaster recovery supplier, and Credit Mutuel Maine-Anjou, a client of Sogeris operating in the banking sector and based in Normandy.

Tests were carried out using a British Telecom ISDN 2 connection and these tests confirmed that Credit Mutuel can switch its operations over to the Datashield site in Hayes near Heathrow Airport in the U.K.

Datashield is the disaster recovery arm of Data Sciences UK Ltd., the company that was formed from a management buyout of Thorn EMI Software on 1 August 1991 (see announcement in the August 1991 *INPUT Service Update*).

- ❖ More news on the subject of ISDN—the U.K. Post Office and Gandalf Digital Communications Ltd. have announced an agreement to develop an analogue voice card for Gandalf's ISDN-compatible Starmaster system.

The initial contract resulting from this agreement is valued at £3 million (about \$5.8 million) and the U.K. Post Office information technology division will use the card in its private voice and data network.

The card allows connection between analogue PABX systems and Starmaster, enabling the integration of voice and data traffic and eliminating the need to replace analogue PABX systems with newer digital versions. Initially it is planned that about 140 systems will be installed in the network.

Continued on next page

Snippets

- ❖ In the U.K., PC manufacturer Amstrad has provided what could be a major opportunity for independent maintenance companies operating in the PC sector of the market. Whilst providing an opportunity, Amstrad may also have created a major battle between companies fighting to gain contracts for the servicing of Amstrad PCs and associated peripherals.

This situation results from a decision made by Amstrad to withdraw from providing free on-site maintenance for users of the 3000 range of PC equipment. The reason for this move by Amstrad is to save cost through reducing the level of support commitment to users, a move that reduces warranty support to a "return to base" service. The reduction in Amstrad warranty support leaves dealers free to sell their own on-site maintenance service.

One company to take early advantage of the opportunity was Newbury Data Maintenance in offering a one-year on-site warranty service to dealers for just £50 (about \$95) per PC. This offer provides next-day service and includes all parts and labour.

- ❖ In the USA, AT&T has announced the closure of its computer repair and distribution centre based in Memphis, Tennessee. Closure of the centre, which only opened about one year ago, will result in the loss of about 230 jobs; the activities carried out there will be taken over by the extensive repair network of NCR.
- ❖ Also in the U.S., Novadyne Computer Systems, Inc. has announced the award of a three-year contract to provide hardware service and support to Southwestern Bell Yellow Pages (SBYP). Novadyne will provide on-site service for SBYP's two main processing centres and an on-call service at 22 other sites in Arkansas, Kansas, Missouri, Oklahoma and Texas. With headquarters located in St Louis, MO, SBYP produces more than 400 yellow-pages and white-pages directories in a five-state territory.
- ❖ In the U.K., the Milton Keynes-based Audio Installation and Maintenance Services Ltd. has been subject to a management buyout. The new company will be known as AIMS Technology Ltd.

The management buyout was achieved with financial backing from 3i PLC, a company active in the venture capital market, and was led by Mr. Bill Sparks, managing director of AIMS Technology. Financial support for the buyout was in the form

Snippets

of £40,000 share capital (about \$78,000) on a 10,000 share issue. Mr. Sparks owns 65% of the shares and 3i owns the remainder. Following the buyout, which occurred on 27 June this year, the new company plans to clarify the separate divisions of the company and implement plans to expand into the mainland of Europe.

The company claims to have signed a £25,000 (about \$48,000) three-year contract with a computer company based in the Netherlands. This contract is for the assembly of communications cables. Currently about 70% of the company's business is oriented towards the IBM market in the areas of data services and channel cables. However, the company does not deal directly with IBM, but rather through the PCM route including companies such as StorageTek and Amdahl. Remaining business is achieved from data communications cables (about 20%) and environmental noise controllers (about 10%).

The data services division of AIMS is concerned with consultancy, project management and the environmental needs associated with the installation and commissioning of computer systems.

- ❖ In Germany, BASF AG has become the sole owner of Comparex Informationssysteme GmbH, following the sale by Siemens AG of its 33.5% shareholding in Comparex to BASF. Despite the recession that is hitting the computer industry across Western Europe, Comparex has reported a 3% increase in sales for the first half of 1991. Turnover from services provided by Comparex is rising and now accounts for about \$58 million, or 19% of turnover.
- ❖ U.S. company 3Com Corp. is considering plans for its first European manufacturing facility. Initially this new facility will manufacture Ethernet network adaptors but later will expand to include additional products. At present, plans favour the Irish Republic as a location for the new facility and a temporary facility will open near Dublin towards the end of 1991. ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

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IBM Offers a Wide Range of Services

Part 2 of a Major Review of IBM UK Customer Service

Last month's *Service Update* highlighted IBM's linkage of the achievement of corporate goals to customer satisfaction, and the programmes that have been implemented by IBM UK to achieve these goals.

Part 2 of this in-depth profile on IBM UK provides a detailed review of the range of services provided by IBM UK Customer Service.

At the outset it is worth restating that maintenance as defined by IBM means "maintaining the customer's system availability" or "maintaining the customer in business." Therefore,

maintenance in IBM terms will include traditional equipment maintenance and a range of non-maintenance services.

Part 1 of this major review of IBM UK Customer Service gave a preview of the approach to service adopted by IBM. This approach is illustrated in Exhibit A.

S → Strategy
P → Planning
I → Implementation
O → Operation
M → Maintenance
E → Evaluation

IBM has recently brought together all of its Consultancy and Services offerings under a single KNOW-HOW marketing

"Maintenance = Maintaining the Customer in Business"

In describing the model illustrated in Exhibit A, IBM uses the acronym SPIOME:

banner. Within the SPIOME business cycle the IBM

Continued on next page

IBM...from page 1

Customer Service organisation offers a wide range of services that primarily address the I, O, and M phases.

Another factor highlighted in Part 1 of this profile is that IBM Customer Service was awarded national BS 5750/ISO 9001 certification in August 1986. Also, in May this year, IBM UK

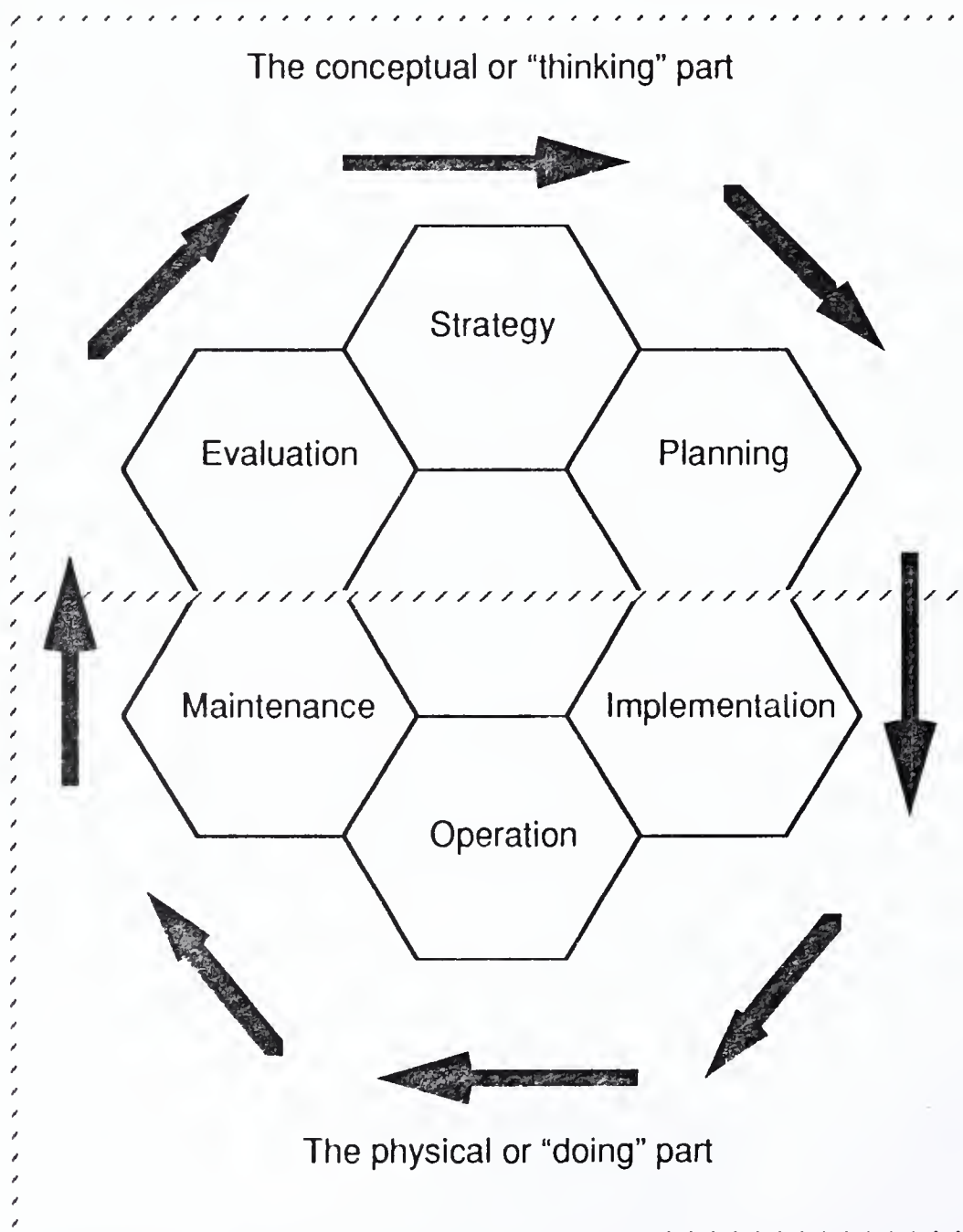
was awarded companywide BS 5750/ISO 9001 certification, which covers all IBM UK products, goods and services. Therefore, the IBM UK operations contain an element of constant quality monitoring and a visible commitment to quality. It is against this background of commitment that the range of services now offered by IBM UK should be judged.

The range of services available from IBM UK Customer Service now extends well beyond the provision of traditional maintenance.

IBM Service Package

The elements of IBM Advanced Operational Support are illustrated in Exhibit A; this exhibit highlights the business cycle that is concerned with a

Exhibit A

IBM Advanced Operational Support

Source: INPUT

customer's implementation of an information technology solution to meet a business requirement. Exhibit A provides identification of two clearly defined phases of an IT business solution or strategy;

- The conceptual phase, in which the customer decides on the precise requirements of an IT solution and how those requirements can be met by defining the system configuration.
- The physical phase, in which the IT solution is implemented within an infrastructure of services to support the operational requirements of the system.

In developing Advanced Operational Support, IBM has reasoned that choice of solution is only the first part of a long and continuing cycle of events. The second part of this cycle is recognition that installation, operation and maintenance are crucial if the user is to achieve optimum system performance and productivity.

It is in recognition of the increasing importance of this second part of the business cycle that IBM has focussed on user satisfaction as a key element of ongoing business relationships, and has extended the range of services offered to ensure full coverage of user requirements. Part 1 of this profile on IBM highlighted the fact that IBM has placed customer satisfaction at the top of its list of priorities. In order to achieve high levels of customer satisfaction, IBM must provide a full range of services to meet customer needs. In

brief, it must be seen by the customer as a business partner.

In 1987, IBM UK Customer Service started on the path toward becoming a full-service provider. The success the company achieved can be seen in the range of services offered today.

The extent to which the IBM Customer Service organisation contributes to the range of services offered to customers is illustrated in Exhibit B. This exhibit indicates how the Customer Service organisation satisfies the I, O and M parts of the IBM Advanced Operational Support concept.

The range of services provided by IBM Customer Service falls into three clearly defined categories, briefly described as follows:

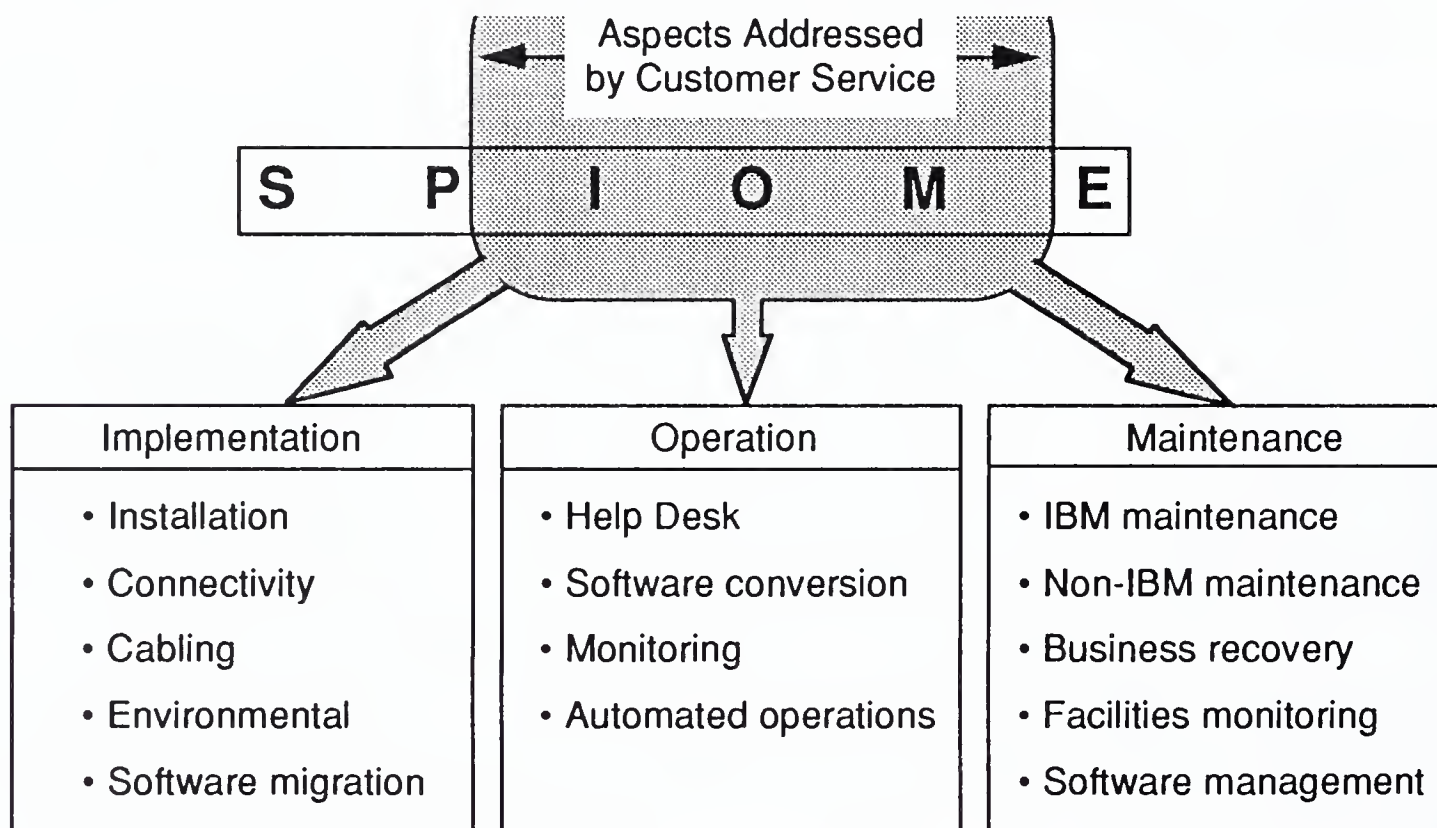
- Implementation relates to:
 - The physical planning and installation services for a wide range of IBM products, including a customised installation service for pre-configuring and customising IBM and non-IBM products. Second-user equipment can also be included.
 - IBM Cable Design and Installation services are aimed at new computer systems or network installations (including relocations). These services include the IBM Cabling Systems, which offer a complete solution for data communications wiring and fibre optic cabling.

- Site services are designed to provide, where necessary, the correct working environment for the computer system—for example, special power supplies or wiring. The service can also provide an environmental check to ensure optimisation of the computer environmental facilities.
- Software migration and conversion services are aimed at ensuring that these activities are carried out in a controlled and secure way. The service includes migration aid facilities, and training and support of customer staff.
- During the implementation phase, IBM offers degrees of support to users ranging from the provision of additional resources to full responsibility for project management.
- Operational services include:
 - Help-desk services provide access to IBM's automated help desk and services can be customised to include diagnostic and preventive aids. IBM reasons that one help-desk specialist is required for every 200 end users.
 - Software loading services provide IBM specialists to load new systems software or updates at the customer's site.
 - Monitoring services are aimed at providing checks

Continued on next page

Exhibit B

IBM Advanced Operational Support



Source: INPUT

on a number of site elements that influence computer operations. These checks include the monitoring of hardware, software and the operational environment.

- IBM provides a variety of automated service offerings. One example is IBM NetView, which provides a complete package of automated network management facilities.
- "Maintenance" service comprises a range of maintenance and non-maintenance services as follows:

- Traditional maintenance services include the warranty and long-term maintenance of IBM equipment, and also the maintenance of non-IBM equipment.
- Business recovery services are aimed at providing disaster prevention and disaster recovery facilities for customers. The service offered includes contingency planning, testing, the allocation of standby equipment at either a fixed or mobile site, and the provision of alternative sites.
- Facilities monitoring services provide continual or

regular checks on the system environment and advice on preventive or remedial actions.

- Software management services provide the customer with the capability of implementing new hardware and software functions and provide health checks on the status of the system and software maintenance tools.

This brief overview of the key elements of the service offerings of IBM Customer Service is intended to provide a measure of the extent of offerings available. However, the full

range of services is more comprehensive and it is necessary to study these in depth in order to gain a full understanding of the level of detail they contain.

IBM Services in Detail

1. Implementation Services

A listing of the full range of services offered by IBM UK Customer Service that satisfy the Implementation phase of the business cycle is provided in Exhibit C.

The following explanation provides a more detailed description of IBM's implementation services.

Machine Installation and Relocation Service - This service is intended to cover situations beyond normal installation requirements. For new IBM products, except those designated as Customer Set-Up (CSU), installation and associated activities are normally included in the purchase price. These activities usually include installation planning, disposal of displaced IBM equipment and rearrangement of equipment into the new configuration.

Chargeable service for installation applies to:

- Customers who require IBM to install Customer Set-Up (CSU) equipment
- Situations requiring installation or relocation work that is not the result of purchasing additional new IBM products

- Installation of second-user IBM equipment
- The movement of data processing sites, where IBM will take full responsibility for relocation, including transportation if required. IBM and non-IBM equipment may be included.
- Storage of equipment for periods of up to 60 days. However, IBM does not guarantee the confidentiality of data while equipment is in storage or transit, although it states that all reasonable steps will be taken to achieve confidentiality.
- Integration and customisation of customers' hardware and software into an agreed end-user configuration
- System and pilot testing prior to final installation
- Consolidating and configuring to meet staged product deliveries
- Pre-configuring and special packaging of units to allow connection immediately after unpacking
- Complete system testing to agreed criteria

Exhibit C

Implementation Services Offered by IBM

- Machine Installation and Relocation Service
- Customised Installation Services
- Connectivity Services
- Cabling Design and Installation Services
- ANO/MVS Implementation Services
- Environment Health Check Service

Source: INPUT

Customised Installation Services - The objective of this service is to provide customers with a pre-configured and pre-tested system prior to final installation. The criteria are that the customer must have taken ownership of the equipment involved prior to IBM performing the tasks required. Basic components of the service are:

- Operator training

Products that qualify for this service include:

- Processors up to the AS/400 and Enterprise System/9370
- IBM Personal Computer and Personal System/2 products

Continued on next page

IBM...from page 5

- Teleprocessing equipment and communications controllers
- Workstations and POS terminals

The service can include non-IBM equipment, and software can be IBM, IBM approved, customer written or purchased.

In general terms, this is a flexible service that can be structured to meet specific customer needs. Customers can also take advantage of the service to run a pilot system, thus avoiding the risks associated with running a new system for the first time in a live environment.

Examination of the products that qualify for the IBM Customised Installation Service clearly indicates that the service is primarily focussed on customers implementing midrange distributed processing systems and networks.

Connectivity Services - This offering concerns the provision of specialist consultancy, design and installation services for IBM fibre optic cabling. The service is aimed at customers who are designing a new building, installing a new system, expanding a network or moving to a new location.

Using this system of cabling, IBM states that direct channel connection is no longer restricted to the computer room and that direct channel connection is possible in up to 3-km increments.

IBM claims that this service is a complete solution to customer needs. Services that contribute to this complete solution are:

- Consultancy, available from the conceptual phase
- Complete design service
- Fibre optic cabling system design for new and old buildings
- Use of CAD techniques for cabling system design
- Design that includes flexibility to accommodate planned growth
- Choice of IBM or IBM-supervised installation
- Installation supervised by experienced IBM project managers
- IBM technical backup and support
- Contracts that are flexible and designed to suit specific customer requirements
- A one-year warranty is provided on all IBM designed and installed cabling systems

Cabling Design and Installation Services - This offering concerns the provision of services related to the implementation of a structured wiring system at a customer's site. The service includes provision of standard data outlets in all work areas, along with telephone and power connections.

As part of the complete package, IBM will provide an installation team to carry out the physical installation under the supervision of an installation controller. In cases where physical installation is not carried out by IBM, a design specification is provided that contains all the information required by the installer; for example:

- Full specifications for cables, frames, outlets and cable routing
- Standards of workmanship, including relevant installation standards, codes of practice, national and local regulations
- Listing of equipment and materials required to complete the installation
- Conceptual cabling design complete with wiring schematics
- Cabling schedules, giving types, routing, termination addresses and estimated cable lengths
- Installation of trunking, cabling and equipment racks, with marked drawings showing routes, quantities and the physical location of outlets and racks

If required, IBM will assume a project management and consultancy role during installation. In this case, IBM will provide training for nominated subcontractors.

The basic elements of the IBM Cable Design and Installation services comprise the following:

- Design and installation—a customised, single-source service to design and install an IBM cabling system
- A one-year warranty on installation by IBM
- An IBM structured cabling system providing simple installation for multiple applications
- Specialised components; for example, one simple plug acting as both male and female connection, and when combined with a faceplate also acting as a wall socket
- Elimination of multiple wiring; the IBM cabling system is an alternative to coaxial, twinaxial, twisted pair and other specialised cabling
- Improved connectivity, providing multiple configuration options—for example, chain, ring, star and mixed systems. Further, the system allows progressive migration to an IBM Token-Ring Network.

ANO/MVS Implementation Services - This service offering provides IBM expertise to customers who require implementation of IBM Automated Network Operations/MVS (ANO/MVS)—a Licensed Programme.

The service is intended to ensure a smooth and successful installation of ANO/MVS, and includes:

- A pre-installation meeting at the start of the project. The purpose of this meeting is for

IBM to explain what actions are necessary prior to installation and to devise a schedule for the various stages of implementation/installation.

- A further review takes place prior to the start of on-site activities, to ensure that customer requirements are correctly defined.
- IBM staff will carry out the installation of IBM NetView, if this is not already installed, and ANO/MVS. These products are then customised to achieve the objectives defined and agreed upon at the planning sessions.
- Following a thorough testing of the new installation, IBM will then train the customer's network operators and systems programmers to use ANO/MVS in their own environment. This training includes hands-on practical experience and instruction on how to use the newly installed facilities.

Environmental Health Check Service - This service is aimed at providing customers with confidence that the environment of their computer room meets the standards required for trouble-free operations and safety. The service comprises on-site checks that are normally completed within one day; to ensure that measurements are realistic, checks can be carried out under live operating conditions. The process of carrying out environmental checks is claimed by IBM to be non-disruptive to the customer's normal computer operations.

On-site checks carried out cover the following areas:

- Room temperature and humidity
- Floor resistance
- Pedestal-to-pedestal resistance
- Power supply voltages, 50 Hz and 400 Hz supplies
- System earthing
- Chilled water cooling systems
- Other areas specific to individual sites

Checks can be carried out at intervals defined by an agreed schedule or on an "as required" basis.

Following completion of the checks IBM will:

- Provide the customer with a comprehensive report
- Advise the customer of existing problems and how to achieve their elimination or control
- Identify potential future problem areas
- Advise the customer of the impact of the planned changes on the computer room environment
- Provide, if required, additional services to co-ordinate remedial or preventive actions

Continued on next page

*IBM...from page 7***2. Operational Services**

Exhibit D provides a listing of the full range of operational services available from IBM Customer Service in the U.K.

A more detailed description of these services is provided in the following explanation.

CICS Application Migration Service (CICS/AMS) - IBM Customer Service has introduced a service for CICS customers aimed at enhancing application reliability and compatibility. This specific service provides assistance to customers in the conversion of applications from the macro level to the more strategic command level interface. Additionally, migration to IBM CICS/ESA Version 3 requires use of the command-level interface.

The objective of the IBM CICS Application Migration Service (CICS/AMS) is to simplify the process and reduce the workload for the customer involved in the conversion exercise. Included in the service is off-site processing of applications and an on-site feedback session with the customer.

Applications source code, written in Assembler or COBOL, is sent to IBM on tape or cartridge. This source code is then processed by the CICS Application Migration Aid (CICS/AMA), an IBM Licensed Programme that performs some conversion to the command-level interface. Simple macros

Exhibit D**Operational Services Offered by IBM**

- Help-Desk Service
- CICS Application Migration Service (CICS/AMS)
- Software Conversion Service - ACF2 to RACF
- Automated Network and Automated Console Operations Service
- Change Delivery and Implementation Manager
- IBM Support Network

Source: INPUT

are fully converted and require no further attention.

The use of CICS/AMA allows only partial conversion of complex macros. Therefore, after the customer's programmes have been processed, the IBM Software Services Engineer returns them and conducts the feedback session with the customer. During this feedback session the extent of automatic conversion and how to interpretate CICS/AMA output is explained. Also, detailed instructions are provided to allow the customer to complete the conversion from detailed knowledge of the application and its design.

IBM claims that this service provides customers with the functionality of CICS/AMA without installation and operational overheads. Also, providing access to command-level programmes offers increased functionality and relief from virtual storage constraints.

Software Conversion Service - ACF2 to RACF - This service gives customers the opportunity to improve the security of their computer systems by migrating from ACF2 to RACF. This IBM Software Conversion Service consists of an initial positioning review, the migration of ACF2 operation to RACF format, and the ability to run RACF alongside ACF2. Also, additional modules can be customised and IBM will provide customer staff training and conduct a post-conversion review.

The essential focus of the service provides:

- A review of the existing security system, concentrating on the auditing, administration and technical implementation of current security software. The customer's future plans are also taken into account to ensure investment protection. At this stage an "RACF positioning and conversion report" is produced which

forms the base document for delivering the rest of the service; this report is also used for the optional resource module.

- A migration aid facility to translate ACF2 rules to RACF commands, including the training of customer staff in its use. This facility can be used any number of times on the designated system and any problems experienced in its use will be supported by the IBM Software Support Centre.
- A co-existence facility allows RACF and ACF2 to run alongside each other, a requirement of which is that MVS be installed in the target system. The co-existence facility allows ACF2 and RACF to co-exist on the same system in the following modes:
 - ACF2 makes security decisions and RACF reports on its intended actions
 - RACF makes security decisions and ACF2 remains on the system, but in quiet mode

The capability for co-existence between RACF and ACF2 ensures adequate testing, fine tuning and password conversion while maintaining user transparency during the conversion phase.

Following completion of the conversion, a post-conversion review is conducted with the customer to verify the health of the customer's IT security disciplines.

Automated Network Operations and Automated Console Operations Service - The objective of this service is twofold:

- Automatic Network Operations (ANO) provides access to IBM NetView, which allows customers' network operators a facility for automated operation of network problem determination and help-desk facilities.
- Automated Console Operations (ACO) provides automated subsystem initialisation and termination, resource monitoring and recovery.

Both of these service offerings provide for full customised installation of IBM NetView and customer-selected automation facilities, as well as on-site training for operators and systems programmers.

The automated help desk, part of the Automated Network Operations Service, can be customised to include diagnostic or preventive measures unique to the customer's network.

The Automated Console Operations service is claimed by IBM to improve operator productivity, reduce operational complexity, improve system availability and provide better system control. The service provided by IBM includes planning, installation, customer training and support.

Automated facilities provided by the installation of Automated Console Operations include:

- Message suppression

- Subsystem initialisation and termination
- System and subsystem resource monitoring
- Subsystem resource recovery

IBM provides a single point of contact for remote telephone support for 90 days following completion of on-site services.

A summary of the major elements of these IBM Network services is as follows:

- Customised network automation facilities
- IBM NetView installation, customisation and testing
- On-site training and implementation planning
- Error identification and diagnostics
- Automated help desk
- Ninety-day remote assistance and technical support

3. "Maintenance" Services

IBM uses the term "maintenance" to describe services related to maintaining availability of the customer's system. These services include traditional hardware maintenance services and a range of non-maintenance services. Exhibit E provides a listing of the services that IBM provides under the heading of "maintenance" and a more detailed explanation of these service offerings is provided in the following descriptions.

Continued on next page

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Maintenance Services - The IBM System Service Agreement (SSA) is aimed at providing customers with a flexible approach to equipment maintenance. Customers may choose to extend maintenance coverage to three, four or five years, and by making payment in advance have the opportunity to reduce costs considerably. Under the terms of the System Service Agreement, which is restricted to IBM products, customers can select the type of service and the hours of coverage required.

The IBM Service Agreement provides for coverage in the form of a Total System Agreement subject to the system containing a complete qualifying processor configuration. In this case the agreement can cover all directly attached IBM equipment including the IBM PC and Personal Systems ranges. Qualifying processors for the Total Systems Agreement are:

- AS/400
- System/38 5363
- Enterprise System/9370
- Enterprise System/9000 9221
- IBM RISC System/6000
- IBM Com 300

Under the System Service Agreement, payments made by customers cover parts, labour, technical and management support. An annual hardware and software system review is also provided for all systems covered by the agreement, and customers can receive training and assistance in the use of the

Electronic Customer Support facility, if this feature is fitted to their system.

Monday to Friday. Extended hours of coverage are available, and coverage can

Exhibit E

"Maintenance" Services Offered by IBM

- Maintenance Services
- Non-IBM Add-In Service for IBM PCs
- Business Recovery Centre Service
- Mobile Business Recovery Service
- Business Recovery Service Enhancements
- SiteView Services
- Uninterruptible Power Supply Service
- MVS Express/ProductPac/ServicePac
- MVS Software Management Service
- MVS Operational Exception Service
- VSE Software Management Service
- Equipment Collection Service

Source: INPUT

Customer options provided by the IBM System Service Agreement include:

- The term of the agreement ranges from three to five years from system installation date, or from the start date of the agreement.
- The type of service required may be chosen by the customer depending on the applicable types of service for each machine included in the agreement.
- Basic hours of coverage are from 8.00 to 19.00 hours,

be extended individually for each machine in the configuration or can be extended to cover the complete system.

- All additions, model changes and features added to the customer's system may be automatically included under the terms of the agreement. Additional charges may be made for additions based on the outstanding term of the agreement.
- If ownership of the system changes, the System Service Agreement may be assigned

to the new owner. This transfer facility is restricted to customers within the U.K. and is subject to prior written consent from IBM.

- The single charge for the agreement is payable within 30 days of processor installation or agreement start date and takes account of any warranty periods that apply. Once this charge is paid in advance for the complete term of the agreement, the customer is fully protected against any maintenance price increases related to products included in the agreement.
- Charges may be included in an IBM Total System Lease, along with the purchase price of the hardware and software elements of the customer's system.
- Cancellation of the agreement can be made after the agreement has been in force for at least 12 months. Termination can be achieved by giving IBM three months' notice in writing; any unused portion of the agreement will be refunded less any applicable termination charges.

Non-IBM Add-In Service - This service is offered by IBM in recognition of the wide range of add-ins, available from a wide range of manufacturers, for IBM personal computer systems and the problems that these additions can cause for customers if problems or failures occur. The service is aimed specifically at the range of non-IBM add-in memory

cards, adaptor cards, emulation cards, hard disks and power supplies.

Within the context of this service, IBM Customer Service will identify the specific failing non-IBM product and offer a replacement to solve the problem. Although IBM admits that it cannot guarantee to replace all non-IBM add-ins due to the wide range available, it does offer the service for commercially available non-IBM add-ins for specific products. These products are:

- IBM Personal Computer AT
- IBM Personal Computer XT
- IBM Personal System/2

Further, if the failing non-IBM add-in item is not commercially available, IBM will endeavour to suggest a functionally equivalent item.

The service is available through the IBM Customer Service U.K.-wide network of service points or, where applicable, it can be complementary to an IBM on-site Maintenance Agreement.

Charges for replacement non-IBM parts are based on individual quotations; non-IBM parts fitted to the customer's equipment are covered by warranty for 90 days.

Other essential features of the Non-IBM Add-In Service are:

- Single local telephone number for all hardware service calls
- Fixed labour charge for diagnostic and replacement

work carried out by an IBM Servicepoint

- Provision of price quotations and estimated delivery times for non-IBM replacements before work begins

Business Recovery Centre Service - This service provides customers with access to an IBM Recovery Centre in the event of a disaster occurring at the customer's computer site. In addition to providing a recovery site, IBM provides a range of services to aid customer planning, testing and recovery procedures.

The service provided by IBM comprises three key modules:

- Planning—Involves seminars for customer senior management to raise awareness levels and examine the potential impact of a computer-site disaster on the customer's business. An essential element of this part of the service is the provision of a Business Recovery Planning Workshop Service, the aim of which is to produce a plan. One major objective of this plan is to identify the key applications that are critical to the survival of the customer's business. The workshop is also used to identify hardware, software and network requirements, key personnel and support, and to produce a plan for Business Recovery Centre Service facilities and their use. At completion, an IBM certified Business Recovery Plan will have been developed. IBM claims that some insurance companies

Continued on next page

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are prepared to offer attractive premiums to clients with certified IBM Business Recovery Plans. In addition, IBM will provide training for the customer's staff in business recovery procedures and principles.

- **Testing**—At this stage the key activity is to test the procedures developed by the Business Recovery Plan and familiarise the customer's staff with implementation of the plan. To test, two shifts are available providing coverage between 8.00 hours and 24.00 hours each week day. At the end of the test, an IBM observer provides a full report, giving feedback and suggesting enhancements to the plan. Additional services available at this stage include:
 - Remote operations bridge, if more convenient
 - Network support
 - Readiness review for second and subsequent years to update the plan
- **Recovery**—Immediately following a call from a customer notifying IBM that a disaster has happened, the IBM Business Recovery Centre will be prepared to receive the customer. Facilities are available 24 hours per day. The customer's contract provides for selection between two options in the event of a disaster occurring:

- A 31-day contract includes use of recovery centre facilities for 31 days at no extra charge, with extension available for a further 30 days on a daily fee basis.
- A daily contract provides access to the recovery centre for up to 61 days on the basis of a daily fee.

The IBM Business Recovery Centre Service is claimed to support very large configurations and provide a flexible network service.

Mobile Business Recovery Service - This service is aimed at providing AS/400 users with a mobile alternative to a fixed-site recovery service. The service provided by IBM includes planning and consultancy to ensure that procedures to cover disasters are defined and implemented. Following completion of the planning phase a customer is provided with up to two days of on-site testing, followed by an annual test of the procedures and facilities.

The IBM Mobile Business Recovery Unit is a self-contained, fully configured AS/400 with associated input/output devices and up to 12 workstations. Upon arrival at the chosen site, attachment to an available power source can be made or, alternatively, a power source can be provided. The on-board Uninterruptible Power Supply provides protection from power disturbances and outages. The design of the mobile unit includes access ports for connection to remaining local-area networks and wider connectivity.

The environment of the mobile unit is fully controlled with IBM NetView monitoring where applicable.

The unit will remain on the chosen recovery site until the customer's computing facilities are fully independent. IBM considers that this period would normally be within seven days for hardware or software facilities, or 30 days for more serious disasters. This period can be extended for an additional charge.

Even though this Mobile Business Recovery Service is primarily aimed at AS/400 customers, IBM claims that it may be possible for other systems users to be accommodated. This additional capability applies where migration from other systems to an AS/400 can be practically included as part of the recovery plan.

Business Recovery Service Enhancements - In addition to the previous two disaster recovery services discussed, IBM also provides two enhancements to these services:

- **Relocatable disaster recovery facilities**—In the event of a major disaster, IBM can arrange delivery and erection of a complete computer room at the customer's chosen site. Modular units can be delivered and erected in a matter of days to provide a safe and secure computer environment. As a permanent facility, these modular structures will handle the full IBM processor range, including the 3090

product family. Facilities provided include raised flooring, suspended ceilings, air conditioning, and full power facilities including a generator if required. Availability of the facility is for up to two years with optional extension for a further two months.

- **Fixed disaster recovery centre**—This centre is based in South London and offers comprehensive computer and office facilities. The centre provides approximately 6,000 square feet of dedicated open plan computer room space with an additional 2,000 square feet of office space. The main computer room has facilities to accommodate large mainframe configurations including power distribution, air conditioning, water chilling and power frequency conversion. For example, 400 KVA of dedicated computer power supply is available and fifty 13-amp double sockets are located throughout the computer room and office area. Forty telephone lines are installed for voice, data or fax communications, and a 32-line switchboard is connected for immediate use. Use of the centre is normally for a period of up to nine months, with an option for the customer to negotiate a further three months for an additional charge.

SiteView Services - In providing this service offering, IBM provides customers with an environmental site monitoring facility. Environmental conditions on the customer's

computer site can be monitored through optionally available Robertshaw Intelligent Building System sensors with monitoring facilities covering heating, ventilation, air conditioning, lighting, power and security systems.

The transaction and application monitoring is carried out via an IBM 3270 interface to a programme developed by IBM in conjunction with the customer's operations staff.

Whenever an environmental threshold is exceeded, or if there is an unexpected result from the transaction and application monitoring, an automatic "alert" message is sent to the IBM SiteView Monitoring Centre. This centre is located at an IBM location and is staffed 24 hours per day.

Following an alert, IBM will automatically notify nominated customer contacts via message pagers.

IBM SiteView Automation Monitoring enables the customer to extend the service to high-activity MVS-based systems. Using this service provides for the monitoring of networks, transactions and applications; alerts from any source can be handled by the system.

Uninterruptible Power Supply Service - This service provides a source of uninterruptible power to AS/400 users. The service offered by IBM includes:

- **Consultancy**—Advice on the most appropriate unit based on the customer's current

AS/400 configuration and planned growth

- **Delivery** to anywhere within the U.K. at no extra charge
- **Installation**
- **Commissioning**—Including a full test of the customer's system and the installed power supply
- **Warranty**—Provided for a period of twelve months with an option to extend this for an additional period of two years

IBM offers a range of uninterruptible power supplies extending from 6 KVA up to 100 KVA ratings.

MVS/Express, MVS/ProductPac, MVS/ServicePac - With this service, IBM provides three software offerings designed to ensure that MVS software is quickly installed and easily maintained.

MVS/Express allows customers who need a basic MVS operating system installed quickly to have it installed in one day. The basis of this service is a pre-generated and tested MVS system with the IBM Licensed Programmes already installed. Installation is carried out at the customer's site by an IBM Programme Support Representative and includes full testing and verification.

All products available in IBM/CBIPO, plus IBM CIS and IMS, are supported by MVS Express.

MVS/ProductPac is a software package in which the installation procedures and

Continued on next page

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documentation have been specifically customised to match a customer's system. The service includes all the machine-readable material required to install selected IBM Licensed Programmes and their maintenance. Also included are fully updated technical changes, Programme Temporary Fixes (PTF's) and the latest Preventive Service Planning (PSP). MVS/ProductPac comes complete with an individually produced step-by-step installation guide which consolidates all the information required by individual customers.

MVS/ServicePac is a software package developed by IBM to anticipate and correct potential software problems before they arise. The service consists of a package of Programme Temporary Fixes and installation procedures that are based on information collected through IBM's worldwide communications network and database, which logs all customer software problems and their solutions. IBM personnel use this information, in conjunction with data supplied by the customer, to create the appropriate level of software maintenance for a specific customer system.

MVS Software Management Service - This service provides a flexible software management system customised to meet the requirements of individual customers. Customising takes into account:

- Current service level
- System software complexity

- Current system management
- System modifications
- Customer's support staff

In providing the service, IBM has developed three levels of service for customers.

- Basic Service
 - Customised service to achieve and maintain the ideal service level
 - Follow-up customer reviews
- Enhanced Service
 - Includes Basic Service
 - Provides user monitoring for potentially critical errors
 - Packaged Corrections Service for which electronic delivery may be used
- Enhanced Service Plus
 - Includes Enhanced Services
 - On-site installation of all provided service updates

MVS Operational Exception Service - IBM has developed this service to allow customers to monitor the key operational elements of an MVS system. The product on which this service is based is OPEX, a product originally developed by IBM for in-house use.

The service provided by IBM includes training the customer's staff in the use and support of OPEX programmes, documentation, and assistance with the installation of OPEX. Installation can be achieved in one day.

The essential elements of the service are as follows:

- Only monitored exceptions and relevant information are displayed.

- OPEX interprets information before it is displayed.
- Monitoring consoles can be consolidated if used in conjunction with IBM NetView.
- Early warnings enable pre-emptive action.
- Responses can be automated if used with products such as IBM NetView.
- Ongoing support is provided by IBM's Software Support Centre.
- Simple customisation is provided.

VSE Software Management Service - This IBM service is aimed at assisting customers in keeping their VSE software fully up to date. In developing the service, IBM adopted a flexible approach allowing customers a number of options. For example, customer choices include:

- The number of products to be included in the service
- The type of service required, for example:
 - Refreshing VSE software to include recent fixes
 - Updating to a new version
 - Refreshing and updating, plus the installation of new IBM licensed programmes
 - Installing a VSE system on a new processor

The standard service includes a visit to the customer's site and

the installation of a VSE system, containing recent preventive maintenance, twice per year. Work is carried out during normal working hours.

Enhancements to the standard service—for example, visits outside normal working hours—are negotiable.

Equipment Collection Service - In addition to the range of services previously discussed, IBM also offers an Equipment Collection Service (ECO) that provides for the environmentally friendly disposal of IBM products, parts or supplies that have reached the end of their productive life cycle.

This service applies to all owners of IBM products, parts or supplies.

In Conclusion

To conclude this somewhat lengthy and detailed two-part profile of IBM UK Customer Service, it is appropriate for INPUT to summarise and comment on the key points that emerge. The key achievements of IBM can be outlined as follows:

- Commitment to quality
- Recognition of customer needs
- Development of a wide range of services
- Understanding of the need for flexibility

IBM's stated commitment to *quality* is demonstrated in many areas. Firstly, as an early qualifier for BS 5750/ISO 9001 certification, achieved in 1987, and more recently, companywide certification to this quality standard. INPUT contends that this level of visible commitment to quality is a clear indication of intent.

Commitment to quality is one aspect, but that commitment needs to be demonstrated by measurable results. By implementing the REFLEX programme, IBM has provided a platform for measurable quality to be achieved and also for quality performance to be recognised. INPUT considers that achievement of a satisfied customer base is a good foundation on which to build ongoing relationships with customers.

The success of the REFLEX programme should not be underestimated. In just nine months from the implementation of REFLEX, the percentage of dissatisfied customers has been reduced from 6.5% to 2.2%. Further, the level of success achieved by REFLEX has exceeded IBM's targets by a relatively substantial margin—the original target was to achieve a level of 3% by the end of 1991. The degree of success achieved by IBM is encouraging and inspires confidence that it is committed to achieving its goal of zero defects.

A second IBM goal, stated in Part 1 of the profile, was to become a services company. The success that IBM UK has

achieved is highlighted by the range of services now offered by the Customer Service organisation. However, structuring a wide range of services is just one aspect; a more important factor is that these services address a customer need. Further, the service offerings need to include elements of flexibility to match the requirements of individual customers.

The first point to note is that most of the services offered by IBM UK Customer Service contain the important element of flexibility. Study of the service offerings will highlight the potential for customisation to meet the requirements of specific customers. One example of this approach is proved by the Help-Desk Service, which can be customised to include diagnostic and preventive aids.

The second point to note is that most of the services offered provide customers with an opportunity to reduce the burden of administrative and housekeeping activities associated with running computer operations. In providing this type of service, IBM has recognised that customers are becoming increasingly interested in the provision of information, but less interested in the mechanics of computer operations. Important examples of IBM's activities in this area are the services that provide site/system monitoring, software installation, software maintenance and system security.

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However, there is one specific service offered by IBM that clearly addresses a key customer need—the provision of disaster prevention and recovery services. Until about two years ago, equipment vendors, with the exception of Hewlett-Packard, were noticeable by their absence in this sector of the service market. This absence was, in INPUT's opinion, a failure to recognise customer needs and resulted in leaving customers exposed to unnecessary risks.

IBM has now addressed customer needs for business protection and in doing so has structured a wide range of disaster prevention/recovery services. It would appear from the range of services offered that most eventualities have been covered. Further, the choice offered to customers contains the important element of flexibility.

Following completion of this detailed profile of IBM, the IBM customer base should be left with two clear messages:

- IBM is fully committed to achieving its quality goals.
- IBM UK has made substantial progress along its chosen path to become a services company.

However, there is one factor crucial to success and that is corporate-level commitment. INPUT considers that IBM has demonstrated that level of commitment to date in the successes achieved. ■

Granada Update**Granada Computer Services Announces More Successes... and More Changes**

Granada Computer Services, Europe's largest independent maintenance company, has announced two more success stories in the U.K.

Success Number 1

The first of these successes concerns an expanded partnership with Brother, the printer and office systems manufacturer. Brother has expanded this partnership with a new one-year agreement for Granada Microsystems Division (MSD) to cover warranty and maintenance of its entire range of office computer equipment. This new contract is in addition to the current maintenance, by Granada, of Brother's system printers.

Prior to this new contract, Brother held contracts with a number of different maintenance companies throughout the U.K., but "has decided to use Granada MSD because of its pedigree and ability to offer tailor-made services to end users on a nationwide scale."

Equipment covered by this contract will be laser, impact and daisy wheel printers, and PCs and word processing units. The services provided will include on-site warranty with next-day response, component level repair, preventive maintenance and installation.

John Harris, Granada MSD Sales Manager, explained: "This is one of our largest manufacturer support contracts to date; around 70 MSD engineers will work on Brother equipment on a day-to-day basis. The single point of contact with Granada's nationwide operation offers the customer both simplified administration and the provision of services previously unavailable to their end users."

John Carter, General Manager of Brother, commented: "My number one priority is to provide the best possible maintenance service to all Brother customers and, I believe, using Granada is the best way to achieve this. We've been very pleased with their service in the past, and I have every confidence that our clients will benefit from the same high standards through our new extended arrangement."

Success Number 2

The second success story announced by Granada Computer Services concerned the award of a contract in Dublin, Ireland.

Granada has been appointed by the Department of Justice to maintain its Digital mainframe equipment. For the past two years Granada has been maintaining the Department's IBM systems.

The equipment, based in Dublin, runs critical applications; continuous 24-hour systems availability will be ensured by dedicated engineering support.

In commenting on this new contract, John McHale, Granada's general manager said: "This marks the company's further expansion into the government sector and demonstrates the level of confidence placed in Granada by the country's largest information technology users."

Granada has been operating in Ireland since 1987 and claims that customers include organisations in the banking, commercial, education and Government sectors.

Success is Followed by More Change

Following closely—less than one month—behind the announcement by Granada of two significant success stories, the company was subject to a substantial organisational change.

On October 17, Granada Group announced that it was implementing substantial reductions in headcount among the European operations of Granada Computer Services International.

Restructuring of Granada Computer Services International will result in the loss of 550 jobs.

Of these job losses, about 330 will be in the U.K.; the cuts are claimed by Granada to be mainly in the sales and marketing areas. The remainder of the job losses will occur in the other 10 countries in which the company operates.

The job losses have occurred as a result of moves by the parent group, Granada PLC, to improve the profitability of its computer maintenance operations. The company claims that the computer maintenance operations will be profitable by the end of the year.

Restructuring costs that result from this latest move by Granada are estimated at about £15 million (\$28 million). ■

IBM Offers Software Mall



A new applications software service from IBM—the Software Mall—is announced for a November 15 opening. The service is available through the IBM Information Network and IBMLink, and will provide subscribers with access to over thirteen software vendors offering services such as bulletin boards, electronic mail, electronic delivery, Q&A support, and electronic ordering of software and services.

"Store owners" who have signed up for the November opening include Candle Corporation, Computer Associates International, Inc.,

COMPUWARE, Kimberly-Clark Computer Service, KnowledgeWare, Landmark Systems, Legent Corporation, Pansophic, PLATINUM Technology, Proramart Corporation, Soft-Switch, SRA, and Velocity Software.

Store owners will provide services for programs, other than operating systems, that are compatible with IBM's operating systems. Support will vary from vendor to vendor. Capabilities available include:

- Message exchange regarding hints and tips, problem

reporting, technical information, and announcements

- On-line bulletin board service containing notices and information
- Software fixes and patches delivered on-line to customers
- Software uploaded from the customer to the store owner for diagnostic purposes and other electronic data interchange
- On-line forms for enrollment, ordering, question or data submission, or requirements submission

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- Access to the IBM Information Exchange and IBM Mail

- Optional access to remote screen viewing for diagnostic purposes and to provide on-line education

The customer may incur additional charges for the use of the IBM Software Mall and other charges based on the type of services required from the store owner. ■

Snippets

- ❖ In the USA, there is some talk that NYNEX is seeking to divest itself of The Data Group, which it acquired in late 1985.
- ❖ In the USA, JWP has announced organisational plans for the newly acquired Businessland. The new venture will be named JWP Businessland, with headquarters in Canton, MA. After progress has been made in merging the two organisations, it will focus on the service side of the business. It is believed that the real growth areas are in the services offered to customers.
- ❖ Intelogic Trace, one of the largest independent maintenance companies in the USA, has reported improved fourth-quarter financial performance. The latest figures released by the company indicate that net fourth-quarter losses were \$10.1 million, compared with losses of \$12.3 for the same quarter last year. Net losses for the year to 27 July were also reduced to \$13.3 million, compared with \$19.6 million for the same period last year. Fourth-quarter 1991 turnover was down 4% at \$35.3 million.
- ❖ Following in the footsteps of IBM, Digital has announced a subsidiary in Poland as a continuation of its investments in Eastern Europe. The new subsidiary, based in Warsaw, will open in November and will initially employ about 30 staff.
- ❖ In a revision of its original decision to close its personal computer plant at Little Rock, Arkansas in the USA, AT&T has now said that the plant will not close. However, 300 jobs will still be cut over the next few months.
- ❖ ICL has announced the signing of a £2 million (\$3.5 million) contract with AAH Holdings PLC in the U.K. This contract is for the supply of 500 new 9520 series PC-based point-of-sale terminals. The new terminals will form part of the LINKPoS project, aimed at supplying complete point-of-sale systems to independent pharmaceutical retail outlets.

ICL's participation in this project is with PoS Halifax, a software house based in West Yorkshire, and Granada Microcare, an independent maintenance company and part of the Granada group.

- ❖ Following announcement by IBM that it was restructuring its Scandinavian operations to simplify and consolidate the reporting lines, IBM has now announced a similar restructuring in the Benelux region. From 1 January next year, important management activities in Belgium, the Netherlands,

Snippets

Luxembourg and Ireland will be centralised in Antwerp, Belgium. The new centralised organisation will be known as IBM North-West and the company indicates that between 15 and 20 staff will be employed at the Antwerp location.

In justifying the inclusion of IBM Ireland with IBM North-West rather than consolidation of it with the U.K. operation, IBM claimed it was a matter of structure. IBM Ireland is relatively small, employing about 370 staff, and has more in common with the European operations with which it is being combined than with the extremely large U.K. organisation. IBM Ireland has always been part of IBM Europe and not the U.K. organisation.

One result of this restructuring by IBM is that headcount in the region will be reduced. One thousand jobs are expected to be lost at IBM Netherlands and 350 jobs at IBM Belgium over the next three years.

- ❖ CRC is to buy Rodime's disk repair centre at Glenrothes, Scotland in the U.K. Following the demise of Rodime as a disc drive manufacturer, the company's facilities were placed in the hands of an Official Receiver. CRC Ltd has negotiated the purchase of the Rodime disk repair centre with the appointed receivers. CRC, a subsidiary of Memec (Memory & Electronic Components PLC), based in Thame Oxfordshire U.K., indicates that it will make substantial investment in the newly acquired repair centre in order to offer a more comprehensive service to disk drive manufacturers and OEMs. The level of service offered will include exchange services, customer support, development services and end-of-the-line manufacture.

In 1990, CRC was estimated to employ over 110 staff in independent maintenance, operating from six service centres in the U.K. Independent maintenance revenues for 1990 are estimated to have been about £2.5 million (\$4.3 million).

- ❖ StorageTek and Groupe Bull have entered into a partnership agreement that covers a period of at least five years and is expected to provide StorageTek with about \$500 million in revenue over the five-year term of the agreement. Under the terms of the agreement:
 - Bull will distribute and maintain StorageTek's storage products.
 - StorageTek will become the preferred supplier of storage products to Bull for all Bull environments.
 - Bull will distribute StorageTek products to Bull users.

The agreement also provides opportunities for:

 - Bull to supply standard computer systems to StorageTek for integration into its mass storage systems
 - The establishment of joint research and development programmes ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Learning Tree—An International Training Company

Learning Tree is a privately owned company that claims to be a world leader in advanced technology education. The company's headquarters are in Los Angeles, CA, USA with operations covering the USA, Canada, Western Europe and Japan.

Formed in 1974, Learning Tree now has a team of over 500 instructors presenting over 2,000 training courses annually. In founding the company, Dr. David Collins and Eric Garen recognised a clear need for educating working engineers in

computers, communications and related technologies. They decided to create a multinational company devoted to these tasks.

In describing the benefits of Learning Tree education and training, the company highlights the following attributes:

- High and rapid return on investment—the company claims that clients report an average productivity improvement of 27% following participation in its courses
- Improved competitive position through reduced costs and increased productivity—Learning Tree claims that its instructors spend 80% of their time working within their own fields of activity and 20% sharing up-to-date knowledge with training course participants. Using this approach instructors can transfer the “best practices” based on many years of hands-on experience.

Continued on next page

Tree...from page 1

- A guarantee of satisfaction—after more than 1 million participant days of training, Learning Tree feels that it can provide this guarantee with confidence. In backing up this level of confidence, the company offers to refund the full training fee unless clients feel 100% satisfied.

The chronological history of the company can be summarised as follows:

- Founded 1974 in Los Angeles, CA, USA
- In 1975, the European headquarters were opened and the first courses presented in Japan.
- Between 1980 and 1981, Learning Tree was employed to train the entire IBM team that would be responsible for developing the IBM PC.
- In 1985 the Canadian centre opened in Ottawa.
- Between 1986 and 1989, the number of employees grew to 500 worldwide and company investment exceeded \$5 million.
- In 1989, the company name was changed to Learning Tree International and the company completed delivery of 1 million participant days of training.
- In 1990 Learning Tree International KK was formed in Japan.

Within Western Europe, the scope of training currently offered by Learning Tree is relatively wide—the courses available range from management training to microprocessors. Some of the training courses available are:

- Courses for Managers in Technical Environments, comprising six short courses, each of four days' duration, costing about \$2,100.
- Software Development and Project Management, comprising nine short courses of four days' duration, costing about \$1,950.
- Networks, Data Communications and Telecommunications, comprising nine short courses of four days' duration, costing about \$2,100.
- Hands-on courses on "C", UNIX, and OS/2, comprising nine short courses of four days' duration each, costing about \$2,100.
- PC Trouble Shooting, Microprocessors, Signal Processing, Graphics and Signal Processing, comprising six short courses of 2-4 days' duration, costing between \$1,200 and \$2,100.

In presenting its view of key trends and issues related to the European training and education market, Learning Tree highlights:

- The return on investment for both users and vendors is becoming increasingly important. From the users' point of view, historically only a minority of organisations have attempted to measure the effectiveness of training. However, now there is a trend towards more sophisticated systems for measuring productivity and efficiency gains. From the vendors' perspective, there is a need for improved methods of justifying the return on the training investment made by users.
- Resulting from pressure within organisations to reduce costs, there is an increasing need for users to justify expenditure on training and also to identify which skills are strategic to their organisation.
- There is an opportunity to develop and provide access to training through the medium of user applications. This can be achieved by integrating the design of training modules into the design of applications.

- Technical professionals—for example, professional DP staff—will progressively need more training and be exposed to training on a wider range of subjects. This will specifically be related to:

- Datacommunications
- Graphics
- Fibre Optics
- Image Processing
- Networking
- Software Engineering

Learning Tree is of the opinion that training is not necessarily the first item to suffer from budget cuts in times of recession, at least not at the more advanced level. In commenting on the skills shortage, Learning Tree suggested that this state is, to a degree, due to users' poor use of existing skills.

However, the company feels that the key to market growth is successful measurement of training benefits—provided that the training is successfully implemented. Further, the growth of UNIX will be a major factor that will contribute to the future growth of training.

The worldwide training revenues of Learning Tree are between \$50 million and \$60 million, of which about 50% is generated within Western Europe.

The make-up of the Western European revenue base is illustrated in Exhibit A.

Exhibit A

Learning Tree Western European Revenues, 1990

Country Market Operation	Percentage of Revenue
France	35
Sweden	20
United Kingdom	45
Total	100

Source: INPUT

It should be noted that training revenue credited to the United Kingdom includes some revenue from the training of non-U.K. students. About 25% of the United Kingdom revenues occur as a result of these activities, and relate to training for students from the Netherlands and Scandinavia (excluding Sweden). ■

TPME— A Maintenance Consultancy Company

Third-Party Maintenance Exchange (TPME) is a U.K. company that describes its business role as that of a maintenance consultancy. The major activity of the company is to act as a broker for maintenance contracts. This means that when a client has specific computer maintenance requirements, TPME will seek to place the maintenance contract with a company whose capability matches the client's needs.

In return for the services provided, TPME charges a 10% commission based on the sales value of the contract placed.

In order to support its business and as a platform from which to provide an extensive and specialised service, TPME claims to have a database identifying about 2,600 companies or individual specialists available to support its clients. In addition, TPME claims to be adding one company to its database each week, and that in the two years the company has been operating it has only failed to place a contract four times as a result of being unable to locate a suitable contractor. Exhibit B provides an overview of the company.

Primary Activities

TPME was formed in 1989 by Sheron Hassell and currently operates from a rural location

Exhibit B

TPME—An Overview

- Provide true single-source maintenance through resource management
- Access to over 2,600 maintenance specialists
- Support service vendor subcontracting needs
- Offer a wide range of consultancy services

Source: INPUT

near Woking in the U.K., south of London. Sheron Hassell had worked for many years in sales within the independent maintenance market and had become bored and disenchanted by this activity. He could see great opportunities for true single-source maintenance but was frustrated at being unable to close contracts due to lack of true single-source capability.

It was as a result of this disenchantment and frustration that TPME was founded. The initial objective of the company was to capitalise on the opportunities offered by single-source maintenance, and to achieve this objective by developing a resource capability to satisfy a wide range of client needs.

The primary activities of the company include the resourcing and maintenance of manufacturer and independent maintenance company subcontracting requirements and the resourcing of warranty for manufacturers and importers. The company is wholly owned by Sheron Hassell and employs four full-time associate consultants and one part-time associate consultant. Between them, the staff of TPME claims to have in excess of 100 man-years of experience in maintenance management.

The aim of the company is to provide service vendors with a single-source solution—through subcontracting—throughout the U.K., Europe and beyond.

Having identified this aim, TPME has developed plans to extend its geographic coverage to include the mainland of Europe, and intends to commence implementation of these plans at the end of 1991.

TPME does not provide any service capability itself; this is left to subcontractors.

In providing a subcontracted maintenance capability for clients, TPME is able, through the use of its extensive database, to match specific needs of clients. For example:

- If a client requires maintenance to be carried out by a company to BS 5750/ISO 9001 standards, the company will ensure appropriate routing of the contract.
- If a client requires maintenance on a relatively unique equipment

configuration or old/obsolete equipment, TPME's database allows it to identify a supplier with appropriate skills.

Associate consultants generally work from a home base and communicate or access databases via a network.

Beyond Maintenance

Although maintenance consultancy is the primary object of the company, TPME also provides a range of services extending beyond this base. Exhibit C gives an indication of the full range of services offered by TPME.

In addition to maintenance consultancy, TPME offers a wider range of services that it groups generically under the heading Computer Services. These services include:

- Financial Analysis, including aspects such as:
 - Profit expectation from service
 - Service product positioning and pricing
 - Identification of cost-saving areas
 - New service pricing
 - Balancing profitable and unprofitable services
 - Profit optimisation
 - Future trends
- Strategic Planning, including the following areas:
 - Developing new services
 - Penetration of new markets
 - Service marketing
 - Partnership and co-operative agreements
 - Impact of 1992 European harmonisation on service markets
 - Acquisitions and divestiture
 - Quality BS 5750/ISO 9001 applicability and achievement
- Product Evaluation, which includes assisting clients with the evaluation of products in terms of assessing the degree of user need fulfillment, identifying additional development required,

Exhibit C

TPME—Range of Services

- Maintenance consultancy
- Assistance for companies developing support capability
- Help for companies responding to large tenders
- Provision of independent advisory services

Source: INPUT

Continued on next page

TPME... *from page 5*

identifying delivery channels and developing product launch programmes.

- Training, which provides a relatively wide range of training courses for clients, extending from technical training through sales training and including seminars. For example:
 - Technical training ranges from appreciation courses to in-depth courses covering hardware and software products, including networks.
 - Sales training ranges from sales appreciation courses to product or service sales.
 - Seminars include subjects such as quality, computer services, marketing and customer care.

A Project Example

In order to more fully explain the primary activities of TPME, a brief summary of a project it undertook with Aston University in the U.K. follows.

Aston University claims to be one of the U.K.'s leading computer colleges. At present, Aston has a claimed population of about 6,000 including 4,000 students, 250 academic staff and almost 2,000 other staff. Most of the academic staff and administrators have a computer or close access to one. The university estimates that it has about £10 million (\$18 million) worth of computers and

associated equipment. This installation includes a recently installed local-area network valued at about £4 million (\$7.2 million) with over 2,600 access points.

The problem Aston University was confronted with was that its computer systems were supplied by a wide variety of vendors, including older equipment supplied by ICL, Teac and Geac, as well as the more mainstream suppliers. Having a wide range of equipment installed, the university was becoming increasingly disenchanted with the service provided by the manufacturers of the equipment, claiming that each manufacturer was only interested in supporting its own equipment. Further, there were many arguments between rival engineers as to where faults were located when problems arose.

As a further complication, the university was keen to have resident site engineers, and the suppliers were unwilling to provide this service.

In order to reach a solution to these problems, the university decided to discontinue a multitude of different service contracts and enter into a single-source contract with a specialist supplier.

Enter TPME

With assistance from TPME and its consultancy services, the university was able to locate a specialist single-source maintainer. TPME worked with

the university to put together a deal with a relatively newly formed company, Fifth Party Computer Services.

The contract developed is estimated at about £500,000 (almost \$1 million) over a three-year period, and under the terms of the contract, the university will get a resident on-site engineer.

Fifth Party Computer Services is headed by Mr. Bob James, formerly with DPCE, and was formed in 1990 by five experienced engineers.

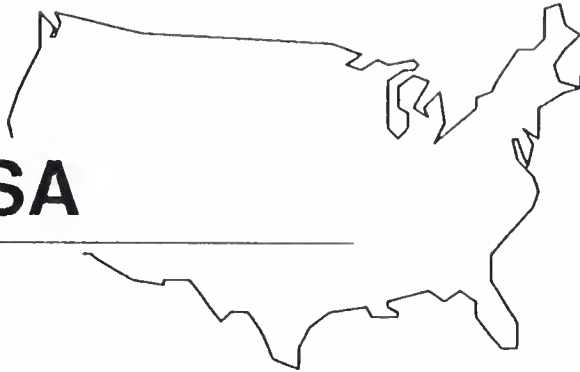
**TPME—
The Raison d'Etre**

In explaining its activities, TPME focussed on a key factor that it considers will contribute to future success. That factor is that it is easier to set up a network of maintenance capability than it is for a company to set up business, particularly where setting up at the international level is concerned. Therefore TPME believes that its planned move into the mainland of Europe will be successful.

For further information, contact:

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News from the USA



U.S. Trends in Desktop Services

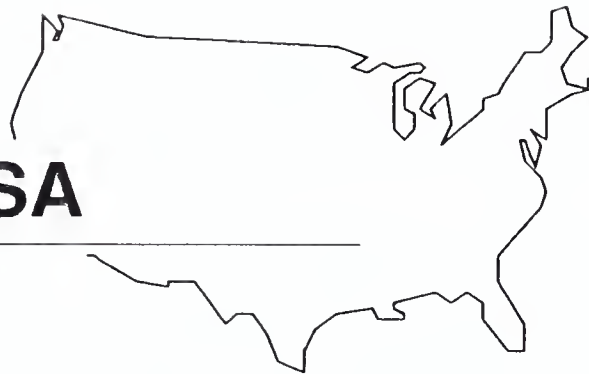
Companies are using more personal computers to accomplish critical applications than in the past. The critical nature of the applications has created a demand for service on the PCs to keep them up and running with increased availability.

The service vendor has to deal with various configuration combinations when pricing the service on the equipment. RAM memory is one aspect of the service pricing that must be considered. Some vendors will base the service contract price on the maximum amount of RAM installed on the machine. Another twist on the RAM-based pricing is one price for a range of RAM, up to a maximum amount. Bell Atlantic Business Systems Services places more weight on the size of the hard drive installed than on the amount of RAM installed, and bases the service price on the size of the hard drive. ■

Continued on next page

News from the USA

...from page 7



U.S. Service Requirements Studies Soon To Be Released

The 1991 U.S. user requirement studies soon to be released by INPUT show the continued emphasis on service quality aspects when users are selecting a service vendor. In all three equipment size ranges (large systems, midrange systems, and PC/workstation systems) users rated the quality of service as more important in selecting a service vendor than price or other contractual issues.

In the early- to mid-1980s, service quality and price went back and forth as most important to users. Research in the late 1980s showed that users were becoming more consistent in considering service quality more important than price in judging their service providers. This could be due to the increasing importance to the core business of applications run on personal computers.

Other issues examined in the user requirements studies include systems availability, response time, repair time, and the demand for services ancillary to the maintenance function. ■

Snippets

- ❖ In the U.K., Wang has offered its data centre for sale. The centre is part of Wang's U.K. division and is located at Brentford Middlesex. Wang claims that this move is part of a restructuring programme it has named "Operation Quantum Leap", which is being driven by Wang's European Headquarters in Brussels. This restructuring programme involves the centralisation of order processing, distribution, invoicing and purchasing at a newly established Business Operations Centre in Brussels. As part of the reorganisation, all Wang European data centre functions are being relocated to Brussels.

The U.K. data centre employs 32 staff and operates 18 VS minicomputers and a WangPak X25 network.

Centralisation of data centre facilities in Brussels infers that all 11 of Wang's European subsidiaries will be affected and that these subsidiaries will operate under the control of Brussels.

- ❖ Following the acquisition of Digital Research Inc., Novell is to restructure into three divisions. It is believed that the restructuring results from a need to cope with an expanded range of services and products. The three new divisions of Novell are:
 - NetWare Systems Group, which will handle the product development and marketing services of NetWare network services, IBM communications, Apple Macintosh and database products
 - Interoperability Systems Group, which will handle product development and marketing of UNIX products, TCP/IP and ISO standards products, messaging products, WAN networking systems technology and network management product development
 - Digital Research Systems Group

Each of the new groups will report to Novell Chief Executive Mr. Ray Noorda.

Continued on next page

Snippets

...from page 9

- ❖ Compaq has announced a major revision of its previous marketing strategy, which was aimed at a dealer-only marketing channel. The company is considering mail order marketing and is preparing straightforward entry-level products free of unnecessary features. New target markets include home, education, small and medium-sized businesses and government offices. In the USA Compaq has signed Merisel Inc. and Tech Data Corp. to distribute Compaq products to VARs and has retained General Electric Computer Service and TRW's Customer Service division to provide on-site maintenance. On-site service was previously carried out by dealers.

In total, six senior officers of Compaq have now left the company as a result of recent changes.

- ❖ In Europe, dealers of second-user Digital equipment have decided to promote their own maintenance guarantee certificate. This action is claimed to result from three years of delays by Digital in developing a solution. Thirty-eight dealers representing the European Digital Dealers Association are recruiting independent maintenance companies across Europe to provide maintenance under the scheme. Plans were for the dealers' representatives to have met in Amsterdam on November 20 to draw up the terms and conditions of a certificate.

Dealers claim to be frustrated at the lack of progress made by Digital, although Digital now claims to have established a position and will make a formal announcement soon.

- ❖ General Datacomm Ltd., based in Wokingham U.K., has opened a European Technical Operations and Assistance Centre with the capability to provide network management services. It is claimed that the new centre can provide a network management service 24 hours a day, seven days a week for as long a period of time as customers require. A dedicated line from the centre to the most convenient customer node provides 24-hour coverage.

The basis of the network management service is that General Datacomm monitors the network at 30-minute intervals, keeping a log of any incidents or responses. Customers will receive a monthly copy of the log. Thresholds determining intervention or

Snippets

action are specified by customers and defined escalation procedures are set for problems unresolvable by normal routine procedures.

Current customers include British Aerospace, Shell, Volvo and Express Newspapers. The degree of cover provided varies depending on individual customer needs. General Datacomm is seeking to expand the customer base to increase service revenue contribution from last year's 34% to 40%.

- ❖ Hewlett-Packard is now providing a free, one-year, on-site limited service warranty on all Vectra 486 PC models. Furthermore, the company is extending on-site service to all Vectra 486 models still under warranty.
- ❖ Norsk Data and Siemens Nixdorf have reached agreement to form a partnership. The partnership between the two companies concerns Siemens Nixdorf combining its Norwegian operations with Norsk Data Partner marketing and systems integration company. This company deals mainly with national and local government and the offshore oil industry. The majority shareholder in this agreement will be Siemens Nixdorf; the agreement includes an option for Siemens Nixdorf to acquire Norsk Data's total shareholding. The newly merged company will also take over the activities of both companies in Sweden and Denmark.

In the first half of 1991, Norsk Data Partner had a pre-tax loss of \$39 million, compared with a profit of \$150,000 for the same period last year. On the basis of financial performance, the agreement to merge with Siemens Nixdorf should be seen as a benefit to Norsk Data.

- ❖ An example of the impact of downsizing was provided recently in the USA. The University of California's Lawrence Livermore National Laboratory is investing \$1 million in a cluster of 14 IBM RS/6000 Powerserver 550s; the objective is to create a UNIX computer server in the laboratory's Open Computer Facility. The 550 is IBM's most powerful RS/6000 machine and the new installation will run AIX 3 UNIX.

The downsizing factor is that the RS/6000 installation will replace a Cray X-MP supercomputer and an Amdahl mainframe. ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialisation. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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Service Update

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1991—A Year of Challenges for the Western European Computer Industry

The past year has witnessed very difficult market conditions for system vendors. Whilst economic recession in some countries has been a factor, the signals from the market indicate that more fundamental changes are affecting the whole information technology sector—principally, the three revolutionary forces of:

- Downsizing
- Networking
- Outsourcing

Downsizing computer systems is possible because of the availability of low-cost, high-power computer systems that can be easily and cost-effectively linked together through *networking*. New forms of system design—e.g., client/server systems—can replace the need for large centralised mainframes.

Networking thus opens up the opportunity to distribute

computer power to the point where the work takes place. The ability to move information (and thus ideas) quickly and cheaply will have a revolutionary impact on the acquisition of business, commerce and administration, just as the great nineteenth century revolution was the development of transportation systems, which allowed for the cost-effective movement of people.

Continued on next page

1991 ... from page 1

Outsourcing has manifested itself within the IT market principally in the form of systems operations contracts (facilities management). At the widest level—the farming out of business operations to a third party—outsourcing is likely to have a profound impact on organisational structures during the 1990s.

The key software development that has facilitated the downsizing and networking trends has been the advent of *open systems*. There is much debate within the industry as to what *open systems* means. INPUT uses it here to imply the concept of standardisation—all the technical standards required to allow users to build the systems that they need and want. Consequently, *open systems* used in this sense implies:

- Standards for the portability of software—e.g., UNIX.

- Standardisation of computer systems that allows software packages to run on all classes of the same system—e.g., MS-DOS and Windows on IBM-compatible systems
- Standards for communications

Unprecedented improvement in cost performance is being experienced not just through technology advance, but through highly competitive market conditions engendered by the *open systems* environment.

A major problem for future growth of the industry is that the market is experiencing a downturn in the rate of demand growth for investment in new applications. There thus exists, despite forecasts for increased numbers of computer system shipments, a scenario for industry shrinkage as price/performance improvement outpaces new application demand.

These dramatic environmental changes are challenging the customer services executive to develop new revenue-generating opportunities through careful tracking of user needs and requirements for services. New types of service opportunity, such as supporting desktop services and networks, will increasingly be the focus of the future.

INPUT looks forward to supporting customer services executives and managers in their efforts to profit from these new opportunities and develop significant new revenue streams. INPUT's 1992 research programme will cover the impact of downsizing, networking and outsourcing on customer services, monitor vendors' service strategies, and continue to measure changing customer satisfaction with services. ■

Integrata—A German Company Providing Training Services

Integrata AG is a privately owned German company. The company was founded in 1964 by Dr. Wolfgang Heilman. In 1989 the company changed its status from GmbH to AG and at the same time raised its capital base from DM 2 million to DM 4 million.

Integrata currently employs about 520 staff, of which 135 have ownership of the company. There are no other shareholders.

The company has offices in Stuttgart, Hamburg, Munster, Frankfurt, Munich and a wholly owned subsidiary in

Switzerland, which was organized in September 1990. The company also has co-operative agreements with DVZ Leipzig GmbH and DVZ Berlin GmbH. These companies conduct Integrata's training operations within their respective geographic areas.

Exhibit A

Integrata Five-Year Financial Summary

Year	1986	1987	1988	1989	1990
Revenue (\$ Millions)	18.9	24.6	31.0	39.0	46.1
Annual Growth Rate (%)	37	30	26	26	18

Note: Currency conversion at \$1 = DM 1.68

Source: INPUT

During 1990, Integrata signed co-operation agreements with Hoskyns U.K. and SINDATA in Indonesia. At the beginning of 1991, Integrata established a subsidiary in Austria and has plans to open a subsidiary in Berlin during 1991.

A breakdown of the revenue contribution by service or product delivery mode is provided in Exhibit B.

Exhibit A provides a five-year financial summary for Integrata.

Integrata is forecasting 1991 revenues at \$55.4 million (DM 93 million), which represents annual growth of 20% over 1990.

The key products and services offered by Integrata are as follows:

- Administrative information systems
- Technical information systems
- Software
- Programming
- Training

In its training brochures, Integrata lists 337 courses or seminars ranging from two days to five weeks in duration. The training brochure is divided into three parts:

- 254 seminars aimed at technical professionals and programmers
- 83 PC seminars focussed on the needs of end users
- An additional range of seminars under the heading Academy for Information Technology (A.F.I.). These courses lead to formal A.F.I. qualifications.

Exhibit B

Integrata 1990 Market Analysis by Service Mode (Integrata Classification)

Service/Product Delivery Mode	Revenue (\$ Millions)	Percent
Consultancy	9.2	20
Software Department and Services	19.9	43
Standard Software Products	3.1	7
Training	13.9	30
Total	46.1	100

Note: Currency conversion at \$1 = DM 1.68

Source: INPUT

Continued on next page

Integrata ... from page 3

In 1990, Integrata claimed to have achieved a total of 89,000 participant training days.

The approach to training that has been adopted by Integrata is in two parts:

- The company claims to be a leading provider of training in the German market and claims "achieving a rational and approachable use of information technology" as a goal.
- A special feature of Integrata training is that all trainers are also consultants or managers and are therefore able to bring both practical experience and current issues to bear in each training seminar. When working on projects, trainers impart their theoretical knowledge to the overall benefit of the project.

In positioning itself as a full-service training company, Integrata offers the following services to clients:

- Customised Seminar Development—Training can be directly related to the customer's individual needs and requirements. Seminars can be conducted either at the customer's site or on Integrata premises.
- On-the-Job Training—In recognition that it is often a difficult task to put theory into practice, trainers are available to provide assistance after a training

course has finished and can also work on a customer's project to provide additional assistance.

- Follow-Up Training—Further assistance and follow-up courses are prepared after researching the needs of individual customers.
- Training Consultancy—Customers receive advice about which courses would be most beneficial to their company's needs.
- Management—Integrata provides the customer with access to a training manager who, for example, could spend five days per month working specifically for that customer. Work undertaken could include systematic planning, implementation and control of the customer's IS training needs.
- Computer-Based Training (CBT)—CBT is a service aimed at working closely with customers to provide an optimised CBT training solution.

Delivery of training is achieved through 10 branch offices in Germany, Integrata's wholly owned subsidiary in Switzerland, and a branch office in Austria. Currently, about 90% of training revenues are generated by activities in the German market.

A brief summary of the courses provided by Integrata is as follows:

- Technical courses
 - General courses; introductory courses for experts and IS users
 - Methods, Techniques and CASE; including MENTOR (Integrata's methods package), PROMPT, IEW and CASE
 - Languages and Programming; including COBOL, MVS-DUMP, Assembler, C, and 4GLs
 - DB/DC Systems; including ORACLE, Informix, ADABAS, CA-IDMS, DB2, SQL/DS, IMS and DL/1, and CICS
 - Systems Software; including IBM (MVS, AS/400), DEC (VMS and DECnet), Siemens (BS2000 and EDT), UNIX and networks
 - Information Systems; including office and administration information systems, technical information systems (PPS, CIM), manufacturer-specific information systems (CONNECT, DATATRIEVE, IBM OfficeVision), SAP software and UNIPLEX
 - Information Management; including data management and management information systems
 - Management, Conduct and Communication

- End-user courses

- Basics

- Programming languages

in alphabetical order

- Operating systems user interfaces

in alphabetical order

- Networks, communication

in alphabetical order

- Office communication

- Word processing

in alphabetical order

- Databases

in alphabetical order

- Academy for Information Technology (A.F.I.) courses

in alphabetical order

- Junior programmer—

COBOL

in alphabetical order

- PC organiser

- Data processing coordinator

in alphabetical order

- Software engineer/analyst

- Data processing—project manager

- Information manager

in alphabetical order

- DB2—applications programmer

in alphabetical order

in alphabetical order

- 'C' expert

in alphabetical order

- UNIX expert

- OS/2 expert

in alphabetical order

- PC-user qualification ■

in alphabetical order

in alphabetical order

Sphinx-Level V— An Independent U.K. Training Vendor

Sphinx-Level V is a specialist training company and is part of the Vistec group. The company was formed by a merger of two companies that each had a firm foothold in the UNIX market-place.

Vistec is a large dealer operating within the U.K. in the PC and PC applications market. Annual revenues are about \$78 million.

Sphinx-Level V specialises in providing flexible training solutions covering UNIX/XENIX, Informix, Uniplex, WordPerfect, open systems communication, C programming and project management courses. The company operates primarily within the U.K. but will structure courses for the European mainland on request. At present, only about 2% of training revenue is generated from outside the U.K.

In addition, Sphinx-Level V provides a software distribution service, which accounts for about 10% of revenues.

The reasons for the success of the company's training operation are claimed to result from two key elements:

- Meeting individual requirements within a professional learning environment. This factor

includes a purpose-built facility, located in Maidenhead in the U.K., at which class sizes are kept small enough to allow individual attention and student interaction, and which the company feels is a valuable element of the learning process.

- Ensuring that the training provided is practical—a critical element of the effectiveness of training. Each student is provided with an individual terminal to ensure hands-on experience and the structure of the courses is designed to include a practical approach.

As an alternative to its training centre, the company will also provide on-site training when the number of students involved is sufficiently large.

The range of courses offered by Sphinx is illustrated in Exhibits C to G. In addition to these, Sphinx-Level V offers a WordPerfect suite of training courses.

The duration of courses is between 1-5 days and typical prices range from about \$380 for a one-day course to \$1,725 for the five-day course.

Continued on next page

INPUT

Training ... from page 5

In commenting on the key issues and trends in the training and education market, Sphinx-Level V highlighted the following:

- There is a need for a public body to promote training and stimulate user interest, and, if appropriate, provide assistance with funding.
- It is sometimes difficult to achieve a balance between providing a training service that is profitable and funding the investment required for new courses.
- Training tends to be very much a reactive business rather than proactive and tends to be very much a project-driven activity.
- Companies should focus training on improving the effectiveness of existing skills rather than on training new employees. The reason for this opinion relates to the fact that new employees carry a higher risk factor.

Exhibit C

The UNIX/XENIX Suite

- UNIX/XENIX foundation
- UNIX/XENIX foundation and Bourne Shell
- SCO UNIX installation
- Bourne Shell programming
- XENIX installation
- XENIX administration
- UNIX for DP professionals
- SCO open desktop administration
- SCO ODT developers' workshop
- UNIX market overview

Source: INPUT

Exhibit D

The Informix Suite

- Introduction to relational databases
- Informix—SQL essentials
- SQL for database administration
- Informix—4GL for SQL users
- Informix—4GL programming
- Informix on-line programming
- Informix on-line administration

Source: INPUT

Exhibit E

The Uniplex Suite

- Uniplex word processing, plus and advanced course
- Uniplex spreadsheets
- Uniplex database forms
- Uniplex structural Query language
- Uniplex advance office
- Uniplex administration
- Uniplex configuration

Source: INPUT

Currently, the training revenues of Sphinx-Level V are about \$20 million per annum, excluding revenues from software distribution. The apportionment of these revenues is equally divided, about one-third each, between:

- UNIX
- Programming in UNIX
- End-user applications

Sphinx-Level V has recently started issuing licences to companies to start training centres in Germany and Yugoslavia. ■

Exhibit F

The Communication Suite

- Open systems communication overview
- TCP/IP and UNIX
- X.25 overview and workshop

Source: INPUT

Exhibit G

The Programming Suite

- OSF motif development
- C programming essentials
- Structural query language
- Project management overview
- Software project maintenance

Source: INPUT

Nexor Telub— An Independent Maintenance Acquisition in Scandinavia

On October 28, 1991, it was announced that Nexor and Telub were to join forces. This joining was achieved following the acquisition of Telub by Nexor and results in Nexor becoming the largest independent maintenance company in Scandinavia.

Nexor Service AB, a member of Nexor Gruppen AB, acquired Telub Service AB for SK 125 million (about \$22 million). The purchase of Telub was from the parent company Datagallerian AB, which will acquire 15% of Nexor Service AB in conjunction with the transaction.

Mr. Sten Runden, President of Nexor Gruppen and Chairman of Nexor Service AB, said:

"We're launching a major offensive in the middle of an economic downturn in order to become a nationwide and highly competitive partner for computer companies and users alike."

Nexor Service AB and Telub Service AB both maintain nationwide operations, and as independent players are not linked to a specific computer company.

Nexor Service AB, which has been active in the service industry for more than 20 years, has SK 100 million (about \$20 million) in sales. The company has regional offices in Örebro, Gothenburg, Sundsvall and Stockholm, the latter being the location of the company's corporate headquarters.

Telub Service AB has 345 employees, of whom 170 are located in Sweden, and expects about SK 230 million (about \$41 million) in sales in 1991. Telub Service operates in Sweden,

Mr. Sten Runden further said:

"Both companies enjoy a healthy level of profitability. The merger will allow us to increase volumes, which will ensure our long-term profitability and competitive ability."

Negotiations with employee labour unions are already under way. ■

"We're launching a major offensive in the middle of an economic downturn in order to become a nationwide and highly competitive partner for computer companies and users alike."

- Sten Runden

Acquisitions in Holland too

It has also been announced that Getronics Service is to acquire KH Services, the largest Digital maintainer in Holland. No further details are available at present. ■

News from the USA

Compaq Announces TRW and GECS as Authorised Independent Maintainers

At the beginning of November, Compaq Computer Corporation announced the addition of TRW Customer Service Division and GE Computer Services as authorised independent maintainers of Compaq PCs and PC systems in the U.S.

The Compaq-authorised third-party maintainer program began in 1986 and provides warranty services as well as a broad range of other customised services to Compaq users. TRW and GE join Intellogic Trace as authorised Compaq national service providers with multivendor microcomputer maintenance solutions. ■

IBM Announces the Opening of the Software Mall

In mid-November IBM opened a new service—Software Mall. Software Mall is an IBM Information Network Service available, for a fee, through IBMLink. The Mall contains electronic outlets or "stores" operated by software vendors, providing services such as bulletin boards, electronic mail, electronic forms, delivery, support and upload/download capabilities.

The Software Mall service is expected to assist independent maintenance organisations and users, who can sign on to the Mall service and get the support information needed. The service will help to decrease the time that it normally takes to call the help desk and try to explain the problem.

On-line screens offer capabilities for ordering information, support or supplies, as well as electronic delivery of any software that can be downloaded from the system. The order form for Software Mall is also available on-line, along with information on the offering. ■

Snippets

❖ Infotheek NV, the large PC dealer based in the Netherlands, has gone into liquidation and called in the receivers at the end of October. Infotheek is estimated to be one of the largest PC dealers in Western Europe and the cause of its financial problems is claimed to be economic recession and fierce competition. Quest Automation PLC, a U.K.-based company and subsidiary of Infotheek, has also gone into liquidation.

❖ Granada Group PLC, owner of Granada Computer Services, has reported reduced profits for the year ended September 28. Profits for the year were down 53% at £56.9 million (about \$100 million) on revenue that remained flat at £1,392 million (about \$2,400 million). The chairman of Granada Group PLC described 1991 as a very disappointing year, saying that losses in the computer maintenance arm of the company and rental losses in Canada have been compounded by the recession. The Business Services sector, of which Granada Computer Services is part, had sales of £198.8 million (about \$345 million), down 4% from the previous year. Granada now claims that the computer services division is operating profitably after a £16 million (about \$28 million) restructuring programme. Computer maintenance revenues were up 6%, but high overheads increased the losses. John Curran, chairman of the Business Services Division, has denied that the division is for sale and also denies that any discussions have taken place at board level.

❖ In the U.K., Sun Microsystems is reshaping its indirect sales channels to relieve the burden on its direct sales force. As part of the reorganisation, Sun has severed its relationships with one of its main indirect sales partners, Frontline Distribution Ltd. Plans are to reshape the whole distribution strategy at the beginning of 1992. As part of the new strategy, Sun will appoint eight Authorised Business Centres to handle low-end products, which will work closely with its own centres on a geographic basis. An objective of the new strategy is to allow Sun's direct sales force to concentrate on customers for high-end products. Technology PLC, based in Warrington in the U.K., will retain its status as a Sun Master Reseller.

Snippets

❖ In the USA, TRW Inc. is seeking a buyer for its large independent computer maintenance business. The sale forms part of a major restructuring activity that will see headcount reductions of about 10,000. The independent maintenance arm is not the only business being sold. TRW Information Systems and Services is also selling some businesses. In total, all TRW businesses that are to be sold represented 1990 revenues of almost \$900 million.

❖ In the U.K., AT&T/Istel Ltd. is selling its share in Failsafe ROC Ltd., a disaster recovery joint venture, to its joint-venture partner, Comdisco. No further details have been released. Failsafe ROC has an IBM 3081k located in Manchester and an ES/9021 Model 720 located in London.

❖ Siemens-Nixdorf has signed a large OEM contract with Ungermann-Bass, a subsidiary of Tandem Computers, Inc. The agreement makes Ungermann-Bass the preferred supplier of local-area network (LAN) equipment to Siemens-Nixdorf.

❖ IBM Switzerland has followed other IBM European country market subsidiaries by implementing a joint venture to provide intelligent-building solutions to customers. The concept is that an intelligent building will provide for a total information technology infrastructure, included in the architecture of the building. IBM Switzerland's joint venture is called Intelligent Buildings Systems & Services. Partners in the joint venture are Suter & Suter AG, a construction consulting company, and Intelligent Building Bouygues International SA. Bouygues SA is the Swiss subsidiary of IBM France's partner in a similar joint venture.

❖ In the U.K., Olivetti Office Ltd. has launched a margin guarantee scheme as part of a plan to help its dealers through the current recession. The margin guarantee scheme is said to provide a volume-dependent 30% to 37% discount to dealers. The scheme is claimed by Olivetti to provide its 100 premier dealers with more room to negotiate sales contracts—discounts for smaller users while recouping profits from the larger accounts. The reasoning behind the scheme is that dealers are the primary sales channel on which Olivetti depends, since it does not sell directly in these markets. ■

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specialises in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

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Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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